Direção-Geral
de Energia e Geologia

Reporting on Gas Demand Reduction
(February 2023 – March 2023)

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

Portugal, April 2023

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1. INTRODUCTION

To increase the security of energy supply in the EU, the European Commission has been presenting a set of instruments and measures to mitigate the weight of Russian fossil fuels supplies to Member States.

The adopted measures include:

- 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, in particular 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.
- Council Regulation (EU) 2022/1854 of 6 October 2022, on an emergency intervention to address high energy prices was adopted to mitigate the effects of high energy prices through exceptional, targeted and time-limited measures.
- Council Regulation (EU) 2022/2576 of 19 December2022, enhancing solidarity through better coordination of gas purchases, reliable price benchmarks and exchanges of gas across borders, including the implementation of a platform that will allow for demand aggregation and joint gas purchasing.
- Council Regulation (EU) 2022/2577 of 22 December 2022, laying down a framework to accelerate the deployment of renewable energy with a particular focus on specific renewable energy technologies or types of projects which are capable of achieving a short-term acceleration of the pace of deployment of renewables in the Union.
- Council Regulation (EU) 2022/2578 of 22 December 2022, establishing a market correction mechanism to limit episodes of excessively high gas prices in the Union which do not reflect world market prices and protect Union citizens and the economy against excessively high prices.

The Council Regulation (EU) 2022/1369 of 5 August 2022, defines a set of rules, namely a voluntary demand reduction of gas consumption 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 mentioned Regulation, **the present document is the fourth report on the gas demand reduction achieved by Portugal (for the period February 2023 - March 2023). On this report there is also a chapter where some data related to preparedness to face the winter period is described**.

Recently, it was approved the Council Regulation (EU) 2023/706 amending Council Regulation (EU) 2022/1369, prolonging the measures to reduce gas demand by 15% for another twelve months, until 31 March 2024.

Directorate General for Energy and Geology is the National Competent Authority on energy security of supply issues, and as such it is the national entity responsible for monitoring and reporting the implementation of Council Regulation (EU) 2022/1369 (amended in the meantime by the Council Regulation (EU) 2023/706).

While the amendment of the Regulation entered into force on 1 April, this report has been prepared as originally planned, and following on from the reports previously produced. The future reports will consider the new rules approved, mainly the new reference period defined on the amended Regulation.

2. ASSUMPTIONS

Reference gas consumption

The "*reference gas consumption*", as defined in Council Regulation (EU) 2022/1369 of 5 August 2022, 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, as 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 highlight the weight of the power sector gas demand on overall demand, considering the well-known specificities of the Portuguese weather/climate conditions, 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

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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 paragraphs 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 September[1]).

Portugal is still waiting for the assessment/opinion 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

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.

3.1. Measures to reduce gas demand

The Council of Ministers Resolution No. 82/2022, of 27 September, approved the Portuguese Energy Saving Plan 2022-2023 (PPE). This plan, mentioned in detail on the first report, has foreseen mechanisms for periodic monitoring of the evolution of gas consumption and, if necessary, proposals for changing the measures adopted shall be presented. The measures are mandatory for the central public administration and recommended for all of the other sectors. In the event of a Union alert being declared, the PPE becomes mandatory for all sectors and may include exceptional measures.

Some of the plan's most relevant actions, due to the lasting impact they may have on consumption reduction, include training and capacity building, and communication and awareness raising.

Training and capacity building actions

The PPE includes the implementation of training and capacity building actions, including training of public servants for the implementation, promotion and monitoring for resource efficiency measures, training and/or capacity building to enhance energy efficiency, and training and/or capacity building to enhance water efficiency.

By the end of March 2023, 41 actions were carried out, covering about 1 329 people.

Communication and awareness raising actions

The PPE foresees the development of communication and awareness campaigns for different target audiences as pivotal agents for the reduction of energy consumption. Communication and awareness raising actions are planned for the adoption of more efficient behaviours aiming at reducing energy and water consumption. These are being carried out through the media, social networks, the “Rota da Energia” (*Energy Route*) initiative, among others, involving municipalities and parishes, signatories of the Sectoral Pacts, and other entities.

[1] https://dre.pt/dre/detalhe/resolucao-conselho-ministros/82-2022-201509699

A national communication campaign was started at the end of February (through social platforms) and will run until April. This campaign had a very significant impact on the scope of communication actions. The national communication campaign will continue its development during this year, with TV spots and open airtime, among others.

These actions, as well as those in the context of training and capacity building, began prior to the approval of the plan. **By the end of March 2023, 133 actions had been carried out, reaching approximately 1 956 403 people.**

TABLE 2 – TRAINING AND CAPACITY BUILDING AND COMMUNICATION AND AWARENESS RAISING ACTIONS

Month	Number of actions		Pax involved	
	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	10	10	170	5 418
Feb/23	7	14	90	1 856
Mar/23	3	25	53	1 926 219
TOTAL	**41**	**133**	**1 329**	**1 956 403**

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 PPE.

The website dedicated to the PPE can be consulted in https://planopoupancaenergia.adene.pt/ and is updated regularly during its implementation.

3.2. Measures to improve preparedness

As noted above, issues associated with security of gas supply are interconnected through multiple regulations and obligations. Within the scope of Regulation (EU) 2022/1032 of the European Parliament and of the Council of 29 June 2022, Portugal has been communicating the evolution of the filling level of its storage facilities. The following tables show the evolution of the filling level of gas in Carriço's underground storage facility, as well as in Sines LNG Terminal, since the last report.

TABLE 3 – FILLING LEVEL OF CARRIÇO UGS

Date	UGS Physical Quantity[1] (GWh)	UGS Commercial Capacity (GWh)	UGS Filling Level (%)
1 Mar 2023	3 789,0	3 570,0	106
1 Apr 2023	3 788,7	3 570,0	106

(1) UGS filling level including balancing stock

TABLE 4 – FILLING LEVEL OF SINES LNG TERMINAL

Date	LNGT Physical Quantity[2] (GWh)	LNGT Commercial Capacity (GWh)	LNGT Filling Level (%)
1 Mar 2023	1 268,0	2 666,0	48
1 Apr 2023	1 029,0	2 666,0	39

(2) LNGT commercial capacity, excluding dead-stock

Also, according to Regulation (EU) 2022/1032 of the European Parliament and of the Council of 29 June 2022, Portugal communicated the draft filling trajectory for the year 2023, as foreseen in Article 6a (7). The Commission Implementing Regulation (EU) 2022/2301 of 23 November 2022 sets the filling trajectories and the intermediate targets for 2023 aiming to achieve the objective of 90% filling level in November 2023.

TABLE 5 – FILLING TRAJECTORY OF UGS FOR 2023

	1 Feb 2023	1 May 2023	1 July 2023	1 Sept 2023	1 Nov 2023
Filling Trajectory	70%	70%	80%	80%	90%
Filling Values	109%				

4. GAS DEMAND REDUCTION

The present report seeks to evaluate the available data for the reporting period of February 2023 and March 2023, as well as the cumulative information since August, comparing it with the reference gas consumption. Table 6 shows the calculation of gas demand reduction for the referred period.

TABLE 6 – NATIONAL GAS CONSUMPTION IN FEBRUARY 2023 AND MARCH 2023 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 1 February to 31 March

Natural Gas consumption mcm	Feb-Mar/18	Feb-Mar/19	Feb-Mar/20	Feb-Mar/21	Feb-Mar/22	reference gas consumption Feb-Mar	Feb-Mar/23	Δ%
Overall consumption	850	814	957	813	925	872	799	-8,4%
Dedicated power plants (CCGT)	197	141	295	139	402	235	302	28,7%
Other uses	653	673	662	674	523	637	497	-22,0%

Natural Gas consumption GWh	Feb-Mar/18	Feb-Mar/19	Feb-Mar/20	Feb-Mar/21	Feb-Mar/22	reference gas consumption Feb-Mar	Feb-Mar/23	D%
Overall consumption	9 638	9 284	10 904	9 168	10 129	9 825	8 936	-9,0%
Dedicated power plants (CCGT)	2 226	1 586	3 311	1 560	4 495	2 636	3 382	28,3%
Other uses	7 412	7 698	7 594	7 608	5 634	7 189	5 554	-22,7%

Natural Gas consumption TJ	Feb-Mar/18	Feb-Mar/19	Feb-Mar/20	Feb-Mar/21	Feb-Mar/22	reference gas consumption Feb-Mar	Feb-Mar/23	D%
Overall consumption	34 698	33 423	39 256	33 005	36 465	35 370	32 170	-9,0%
Dedicated power plants (CCGT)	8 013	5 710	11 918	5 617	16 182	9 488	12 175	28,3%
Other uses	26 685	27 713	27 338	27 388	20 282	25 881	19 994	-22,7%

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 February 2023 and March 2023, in comparison with the historical average of the last five homologous periods, a reduction of 9% in the global consumption of gas was attained.**

Taking into account the data provided on the previous reports and the data in the previous table, Table 7 shows the calculation of the gas demand variation since the entry into force of the Regulation (period August 2022 to March 2023)

TABLE 7 –NATIONAL GAS CONSUMPTION FROM AUGUST 2022 TO MARCH 2023 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 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	Aug/22-Mar/23	D%
Overall consumption	4 037	3 775	4 198	4 057	3 850	3 983	3 390	-14,9%
Dedicated power plants (CCGT)	1 511	1 166	1 585	1 389	1 661	1 462	1 450	-0,8%
Other uses	2 526	2 609	2 614	2 668	2 189	2 521	1 940	-23,0%

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	Aug/22-Mar/23	D%
Overall consumption	45 097	42 493	46 909	45 015	42 942	44 491	37 923	-14,8%
Dedicated power plants (CCGT)	16 951	13 135	17 811	15 587	18 576	16 412	16 218	-1,2%
Other uses	28 146	29 358	29 098	29 428	24 366	28 079	21 705	-22,7%

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	Aug/22-Mar/23	D%
Overall consumption	162 348	152 974	168 871	162 054	154 591	160 168	136 523	-14,8%
Dedicated power plants (CCGT)	61 024	47 284	64 119	56 113	66 874	59 083	58 384	-1,2%
Other uses	101 324	105 690	104 752	105 941	87 717	101 085	78 139	-22,7%

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 during the defined reduction period of eight months (August 2022 – March 2023), in comparison with the reference gas consumption, a reduction in the global consumption of gas of almost 15% was attained.**

5. CONCLUSIONS

Portugal has reduced until the end of March it´s total gas consumption by almost 15%, since August, when compared to the average consumption of the last five years. On the period February-March, the reduction was around 9%.

The overall reduction in gas demand achieved between August 2022 and March 2023 (-14,8%) is due, particularly, to the decrease in consumption in 'other uses' (industry, households and services, including government).

It is important to highlight that the consumption of gas for electricity production, although slightly reduced compared to the historical reference (-1,2%), has been impacted by the low rainfall situation that has affected Portugal during almost all the analysed period.

After the increase in rainfall in December 2022, the months of February and March were less rainy, decreasing, compared with the historical data, the production from hydro. This has led to an increase in the use of gas-fired power plants for electricity generation.

For the remaining sectors, the trend of decreasing consumption of gas has continued. It will be important to continue monitoring the development of these consumption in order to assess the structural extent of the reduction. The mild temperatures have also reduced the need for gas consumption in the sectors included in 'other uses'.

Finally, the implementation of the Portuguese Energy Saving Plan 2022-2023. The consolidation of the plan and of its measures will bring lasting results, which may already be reflected in actual consumption data.

Despite the current stabilization of gas prices, which may change consumption trends, notably in industry, as well as the uncertainty that still exists regarding the international market situation, it is important to proceed cautiously. Nevertheless, Portugal is confident that changes in consumption can be achieved in a structural way and that these changes may not harm economic development, allowing the reduction of gas consumption to be maintained at the levels achieved.