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ENERGY PRICE SURGE: IMPACTS AND LESSONS LEARNT FOR MEDITERRANEAN ENERGY MARKETS 2023 UPDATE



Electricity
Working Group
(ELE WG)

Empowering Mediterranean regulators for a common energy future



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Abstract

In 2022, the Task Force unveiled the inaugural edition of the "Price Surge and Security of Supply" report, marking a pivotal initiative to scrutinize the intricacies of energy price dynamics across Europe and beyond. This comprehensive analysis aimed to evaluate the repercussions on gas and electricity markets in Mediterranean countries and elucidate the multifaceted challenges arising from the crisis.

Rooted in 11 meticulously conducted national case studies, the report spanned the dynamic period from 2021 to August 2022. Recognizing the evolving nature of the energy landscape, MEDREG's General Assembly, mindful of its key responsibility to safeguard end consumers, decided to initiate an update. This forthcoming report, scheduled for publication, will scrutinize the latest developments in the energy price surge post-August 2022.

As an association of energy regulators, MEDREG plays a crucial role in protecting end consumers from uncertainties in the energy market. The task force acknowledges the diverse regulatory environments within the Mediterranean, distinguishing EU countries with a unified and harmonized model, Balkans & Türkiye countries aligning with EU legislation, and south shore countries with unique regulatory frameworks.

The upcoming report from the task force will assess the impact of the energy price surge from a varied perspective, encompassing countries experiencing negative, neutral, or positive impacts, particularly in the case of natural gas-exporting nations. This nuanced analysis reflects the commitment to understanding the divergent effects of the crisis on different regions.

Emphasizing the challenge of forecasting in an ever-evolving environment, the task force acknowledges the difficulty in projecting future trends. The report, based on the latest available information in 2023, provides a forward-looking perspective, recognizing the inherent uncertainty but striving to offer valuable insights into the potential trajectories of the energy landscape.

In summary, the context surrounding the update on the energy price surge underscores the proactive stance of MEDREG in addressing the challenges posed by market fluctuations, safeguarding consumer interests, and providing a nuanced understanding of the impact on diverse Mediterranean countries in the face of evolving regulatory landscapes.

ACKNOWLEDGMENTS

This report is the result of the work of the MEDREG Electricity Working Group (ELE WG), based on the replies of the MEDREG's members on the benchmarking prepared by the chairs of the ELE WG and the MEDREG Secretariat.

MEDREG Secretariat would like to thank particularly: Mr. Mustafa YAVUZDEMİR (EMRA, Türkiye), Ms. Pauline Fulcheri (CRE, France) for drafting the report.

DISCLAIMER

This publication was produced with financial support from the European Union. The contents are the sole responsibility of MEDREG and do not necessarily reflect the views of the European Union.

ABOUT MEDREG

MEDREG is the Association of Mediterranean Energy Regulators, bringing together 28 regulators from 23 countries, spanning the European Union, the Balkans, and the MENA region.

Mediterranean regulators work together to promote greater harmonization of the regional energy markets and legislations, seeking progressive market integration in the Euro-Mediterranean basin. Through constant cooperation and information exchange among members, MEDREG aims at fostering consumers rights, energy efficiency, infrastructure investment and development, based on secure, safe, cost-effective, and environmentally sustainable energy systems. MEDREG acts as a platform providing information exchange and assistance to its members as well as capacity development activities through webinars, training sessions and workshops. The MEDREG Secretariat is in Milan, Italy.

For more information, visit www.medreg-regulators.org

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TABLE OF CONTENT

| | | |
|----|--|----|
| 1. | INTRODUCTION & METHODOLOGY | 5 |
| 2. | WHOLESALE PRICE DYNAMICS IN THE EU SINCE AUGUST 2022 | 9 |
| 5. | RECENT DEVELOPEMENTS IN MEDITERRANEAN COUNTRIES | 12 |
| 4. | LONG-TERM CHALLENGES POSED BY THE CRISIS | 28 |

LIST OF FIGURES

| | | |
|-------------|---|----|
| Figure 1 : | Responses to the MEDREG Energy Price Surge Analysis (2021-2023) | 6 |
| Figure 2 : | Evolution of EU gas and electricity prices between May 2021 and October 2023 | 10 |
| Figure 3 : | Evolution of day-ahead electricity prices in selected EU Member States, between January 2021 and September 2023 | 11 |
| Figure 4 : | Evolution of electricity (First) and gas (Second) end-user prices, average EU-27 | 13 |
| Figure 5 : | Comparison of retail electricity (First) and gas (Second) prices between households and industrial consumers, average EU | 14 |
| Figure 6 : | Evolution of gas regulated tariff in France (excl. taxes) in constant 2023 euros | 17 |
| Figure 7 : | 2023 Evolution of day-ahead and PVPC electricity price in Spain, compared with other EU Day-ahead prices, 2022-2023 | 19 |
| Figure 8 : | Effect of the Iberian price cap (average prices between June 2022 and January 2023 in Spain and Portugal | 20 |
| Figure 9 : | Evolution of wholesale gas and electricity prices in Türkiye between August 2022 and May 2023 | 22 |
| Figure 10 : | Evolution of retail prices (incl. taxes) for gas and electricity in Türkiye between August 2022 and June 2023 | 23 |
| Figure 11 : | Evolution of Electricity mix in Montenegro, in 2021 and 2022 | 25 |
| Figure 12 : | Evolution of inflation in the Eurozone, 2008-2023 (annual % change in consumer price index) | 29 |
| Figure 13 : | Inflation in the Mediterranean countries (annual % change in consumer price index) in August 2023 compared with August 2022 | 30 |
| Figure 14 : | Evolution of gas Dutch TTF Natural Gas Futures across 2023 and 2024 (EUR/MWh) | 31 |

1. INTRODUCTION & METHODOLOGY

Context

In March 2023, the Task Force unveiled the inaugural edition of the "Price Surge and Security of Supply" report, a comprehensive analysis delving into the dynamics of energy prices across Europe and various nations. The report aimed to evaluate the impact on gas and electricity markets in Mediterranean countries while contemplating the challenges stemming from the prevailing crisis.

Grounded in a robust foundation, the report incorporated findings from 11 meticulously conducted national case studies, spanning the period from 2021 to August 2022. This initial publication served as a crucial benchmark, providing valuable insights into the evolving energy landscape during a critical timeframe.

Recognizing the dynamic nature of the energy sector, MEDREG's General Assembly has since taken proactive measures to address the need for updated information. Consequently, a decision was made to release a follow-up report, focusing on the most recent developments in the energy price surge subsequent to August 2022.

Building upon the success of the previous edition, the forthcoming report will not only draw upon the insights gleaned from the 11 case studies utilized in the inaugural analysis but will also expand its scope by incorporating 13 additional case studies conducted in 2023 (as show in the figure below). This broader dataset aims to capture a more comprehensive understanding of the multifaceted factors influencing energy prices in the Mediterranean region.



Figure 1 : Responses to the MEDREG Energy Price Surge Analysis (2021-2023)

The commitment to an expanded scope and up-to-date analysis underscores MEDREG's dedication to providing stakeholders with timely and relevant information, contributing to a nuanced understanding of the challenges and opportunities within the evolving energy landscape.

Methodology

The methodology employed for the update of the "Price Surge and Security of Supply" report encompasses a collaborative approach, drawing on benchmarking data from MEDREG members and insights from key stakeholders, particularly the Agency for the Cooperation of Energy Regulators (ACER). This comprehensive methodology ensures a thorough analysis of the energy price dynamics in the Mediterranean region.

(i) **Benchmarking Process:**

MEDREG initiated a benchmarking process by soliciting input from its member countries. A structured questionnaire was disseminated to gather data on the energy price surge's impact on national gas and electricity markets.

The benchmarking exercise facilitated the collection of valuable insights and perspectives from diverse Mediterranean countries, contributing to a comprehensive understanding of regional dynamics.

(ii) **Utilizing ACER's Work:**

The methodology includes the incorporation of ACER's work as a key component of the analysis. ACER's role as a prominent EU-level entity monitoring energy price evolution enriched the report by providing crucial context and comparative data.

By utilizing ACER's insights, the report benefits from a broader European perspective, ensuring alignment with continental trends and enhancing the overall depth of the analysis.

(iii) **Report Integration:**

The final report represents a synthesis of findings from MEDREG's benchmarking initiative and additional data sourced from EU-level entities, with a particular focus on ACER.

The merging of these datasets enables a comprehensive analysis that transcends national boundaries, offering a holistic perspective on the energy price surge across the entire Mediterranean region.

(iv) **External References:**

External references in the report include data and insights from ACER, a recognized authority in monitoring and analysing energy-related trends at the European level.

These external references serve to enhance the credibility and reliability of the report, grounding its conclusions in a broader, EU-wide context.

(v) **Impact Assessment:**

The report goes beyond numerical analysis to provide a nuanced understanding of the impact of the energy price surge on Mediterranean countries.

Findings categorize the impact into negative, neutral, and positive outcomes, particularly emphasizing distinctions for natural gas-exporting countries.

By employing this robust methodology, the updated report strives to offer a comprehensive, well-informed, and regionally relevant analysis of the energy price surge, ensuring its value for diverse stakeholders in the Mediterranean energy landscape.

2. WHOLESALE PRICE DYNAMICS IN THE EU SINCE AUGUST 2022

2.1. Wholesale gas prices have declined since the end of 2022 but remain volatile and exposed to unexpected developments on the gas market.

Wholesale gas prices in the EU peaked at the end of August 2022, reaching unprecedented levels due to the fall of Russian gas flows to Europe (which were divided by three between May and August 2022) and the resulting need for above-average storage injections in EU gas storages. Prices then progressively fell, driven by increased LNG imports, lower gas consumption in Member States compared with historical levels as of fall 2022, and increased pipeline imports from other supply routes. Since January 2023, wholesale gas prices decreased further, thanks to high storage stocks, a mild weather, continuous LNG supply and limited Chinese LNG demand. On May 15th, 2023, TTF month-ahead price dropped below 30€/MWh for the first time since June 2021.

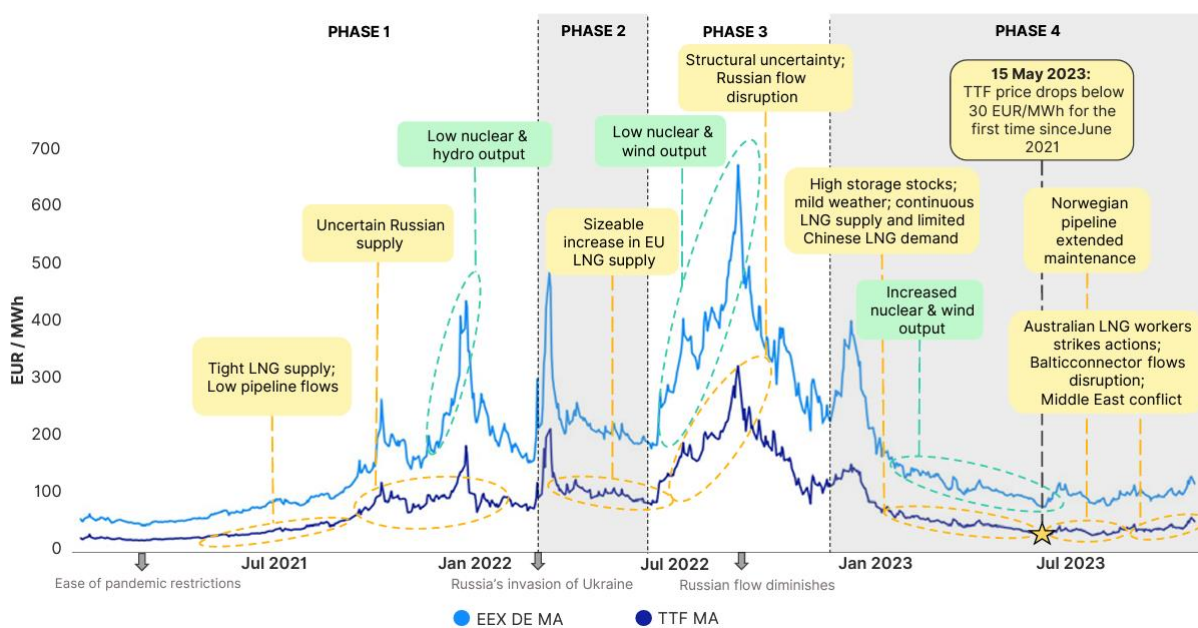


Figure 2 : Evolution of EU gas and electricity prices between May 2021 and October 2023¹

However, gas supply in Europe remains overall still tight, making prices rather volatile and exposed to unexpected developments on the gas market (e.g. closure of Finland-Estonia pipeline on 8 October, strikes at Australian LNG terminals, closure of a gas field in Israel). In addition, China's LNG demand remains an important factor for EU gas prices going forward.

¹ Source: ACER (October 2023), 2023 Market Monitoring Report – European gas market trends and price drivers

2.2. Wholesale electricity prices have gradually declined since summer 2022, while remaining above pre-crisis levels

In almost all EU countries (except in Spain and Portugal), day-ahead electricity prices reached unprecedented levels in August 2022, peaking above 400 €/MWh on average throughout the whole month. This unprecedented price surge was mainly driven by the high wholesale gas prices, as well as by the low availability of French nuclear reactors and overall's low wind production in Europe.

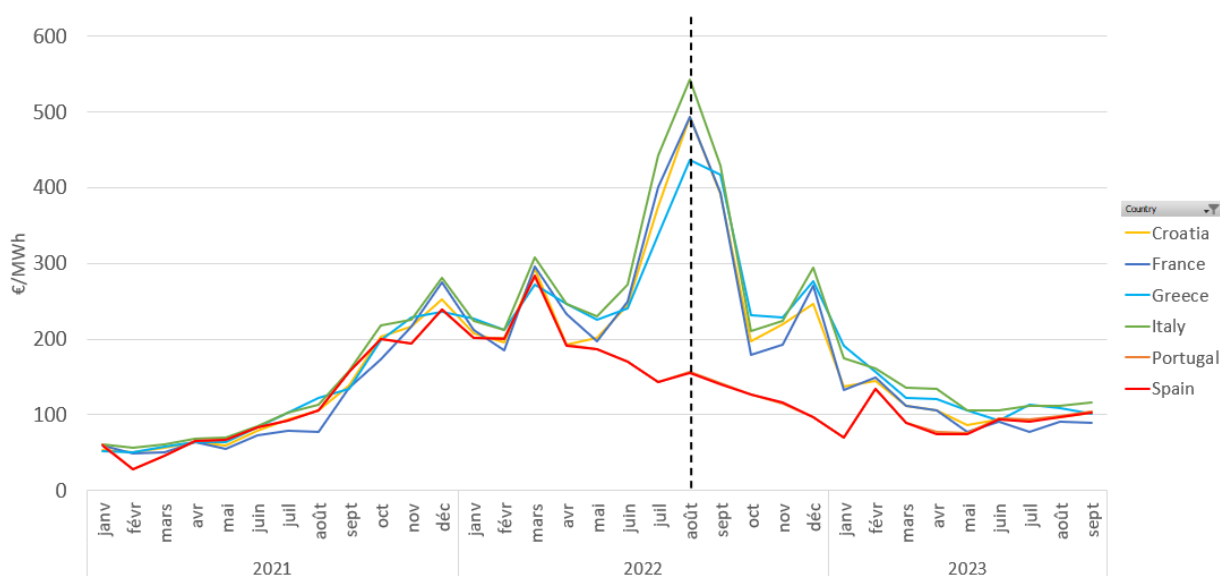


Figure 3 : Evolution of day-ahead electricity prices in selected EU Member States, between January 2021 and September 2023²

After this peak, EU Day-ahead prices sharply decreased until early October 2022. They have been more than halved in EU Mediterranean countries between August and October 2022. During the last three months of 2022, spot prices increased again, driven by the increased demand and growing tensions on the French electricity security of supply, before falling in the second half of December.

Since the end of 2022, spot prices have progressively fallen to stabilize at around 100 €/MWh throughout the first nine months of 2023. Even if these prices are lower than in the midst of the crisis, their level is however still above historical average. As a comparison, the average day-ahead prices in France, Greece and Italy in the period 2015-2019 were 51 €/MWh, 42 €/MWh and 55€/MWh respectively, namely twice lower than current spot prices.

² Source : data from Ember

4. RECENT DEVELOPEMENTS IN MEDITERRANEAN COUNTRIES

4.1. Recent developments in EU Mediterranean countries

a. EU retail prices remain higher than pre-crisis levels and have followed different trends depending on the countries and types of consumers.

At the EU level, the average retail electricity and gas prices for all categories of consumers peaked in September-October 2022 (with a delay compared with the peak on wholesale spot markets), before gradually declining since then. Despite the fall in wholesale prices in the EU, retail prices still remain on average significantly higher than before the crisis (around 1.5x higher for electricity and 2x higher for gas between April 2021 and 2023).

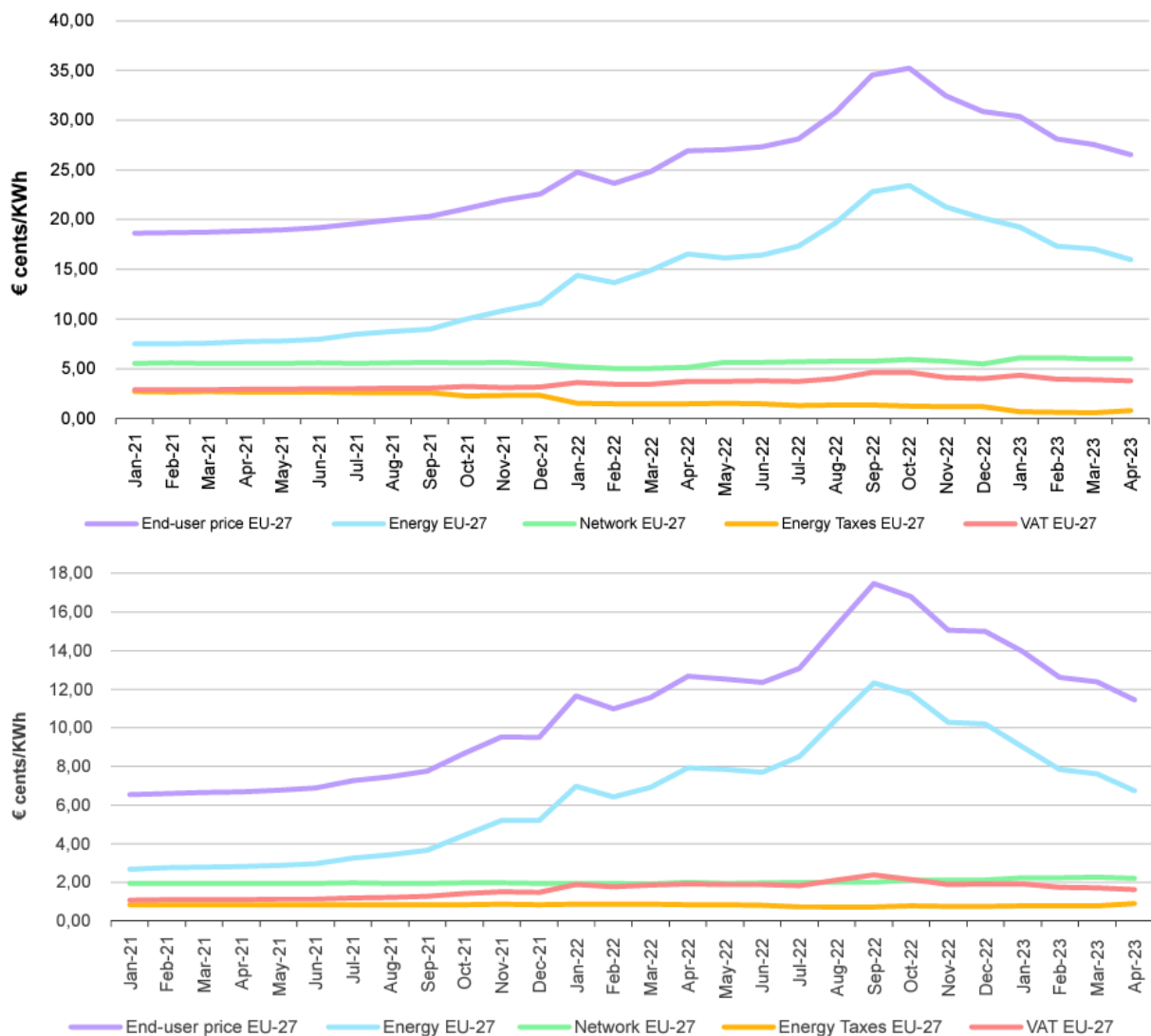


Figure 4 : Evolution of electricity (First) and gas (Second) end-user prices, average EU-27

The impact of the wholesale price surge on retail prices have varied according to the type of consumer. As illustrated in **Error! Reference source not found.**, the price surge in retail prices between 2021 and 2022 has been more pronounced for industrial consumers than for households. For households, they have increased by 18% and 41% for electricity and gas respectively, while for industrial consumers they have risen by 63% and 130%.

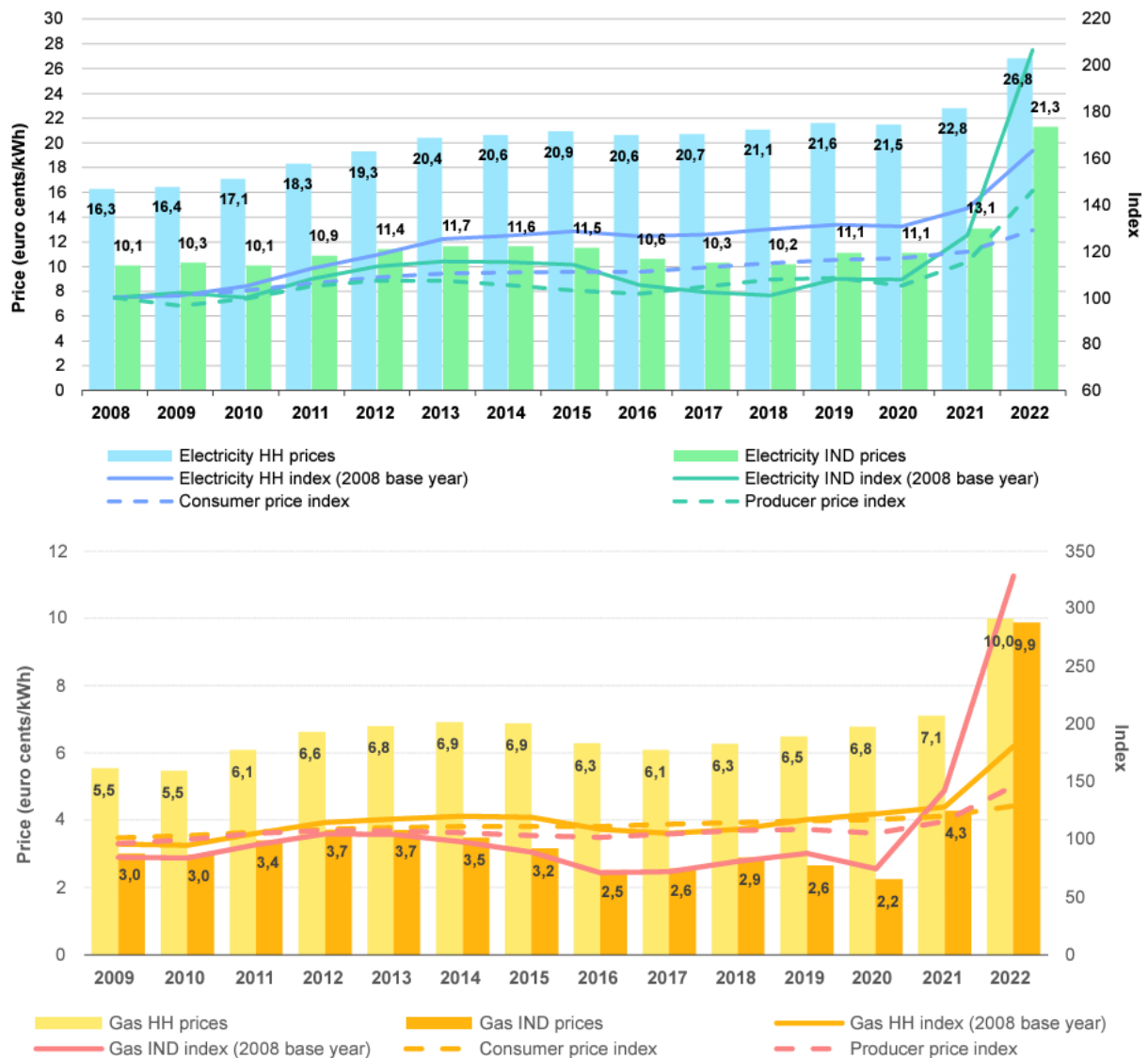


Figure 5: Comparison of retail electricity (First) and gas (Second) prices between households and industrial consumers, average EU

Note: HH refers to households, and IND to industrial consumers

Household retail prices have followed different trends depending on the Member States and the type of contracts, depending on whether government emergency measures were maintained (or how quickly the support has been reduced), on the degree of exposure of consumers to spot prices, but also on other parameters such as the methodologies used for calculating regulated tariffs. Price trends for industrial consumers have also been heterogeneous across Member States, companies and sectors, highly influenced by the types

of contracts. Some industrial consumers have contracts directly indexed to spot prices, exposing them to soaring wholesale prices from the start of the crisis. Others benefited from regulated prices or long-term contracts signed before the crisis, providing them some protection. However, the expiration of some long-term contracts in the middle of the crisis forced some industrial consumers to renew their contracts at unprecedented high levels. It is worth noting that despite the fall in EU wholesale prices since early 2023, some industrial consumers with fixed long-term contracts did not experience corresponding reductions in retail prices.

Overall, three different trends can be observed in the recent evolution of retail prices in the EU:

(i) **In some Member States and for some consumers, retail prices have been constantly decreasing since August 2022 or the end of 2022, in line with falling wholesale prices.** This is for instance the case of retail electricity prices for both domestic and commercial consumers in Cyprus, that have been decreasing since July 2022 after a significant rise since 2021, while remaining well above pre-crisis levels. It is also the case for household gas prices in Greece, which have fallen by around 60% between August 2022 and April 2023. The same trend was observed in household gas prices in Italy, which have decreased by 60% between August 2022 and September 2022. Household electricity prices in Italy gradually decreased since the end of 2022, reduced by 70% between December 2022 and October 2023. In Portugal, retail electricity prices for non-domestic consumers have been more than halved between the Q3 2022 and the Q2 2023, while gas prices for both domestic and non-domestic consumers have decreased since late 2022.

(ii) **For other Member States and for some consumer categories, retail prices remained relatively constant since August 2022.** This trend can be observed for household electricity prices in Greece, Malta and Portugal.

(iii) **In other cases, retail prices have continued to rise since August 2022, despite the fall in wholesale prices.** In Slovenia, household electricity and gas prices have progressively increased, even in 2023 when wholesale prices fell. In France, household regulated tariffs for electricity and gas have continued to increase in 2023 and are expected to be higher in 2024 (although this increase is limited by the “tariff shield” implemented by the government). For electricity retail prices, this is due to the tariff calculation methodology which is based on forward market prices over a two-year period before the delivery year. This methodology partly mitigated the impact of the wholesale price surge on tariffs at the beginning of the crisis, but also meant that the theoretical tariff calculated by CRE for 2024 would keep rising as they would be linked to the forward prices observed in 2022 and 2023. To partly contain this increase, the government announced that the “tariff shield” would be maintained in 2024.

b. Member States have maintained or extended the emergency measures that had been implemented at the beginning of the crisis

In EU countries, the impact of the energy crisis persists, leading government and energy regulators to extend emergency measures aimed at protecting consumers and ensuring security of supply in the second half of 2022, in 2023 and even in the upcoming years.

Measures to contain the rise in electricity and gas bills have been maintained and extended. In France, the rise in electricity retail prices is still contained by State support (through the “tariff shield”), applied in 2022 and 2023 and expected to be maintained in 2024. The equivalent measure for gas regulated prices was also extended in 2023 (see **Error! Reference source not found.**). Greece suspended the wholesale-related adjustment clause in variable electricity retail contracts from August 2022 to August 2023 to reduce the influence of wholesale price fluctuations in retail prices. In Slovenia, the maximum electricity and gas prices was capped in 2022 and 2023 for households, SMEs, and several public services. For some companies, this measure only applies to 90% of the past consumption, thus incentivizing consumption reduction. Portugal maintained several measures to contain the rise in electricity bills, including reduced network charges and VAT. On the gas market, the Portuguese government introduced in 2023 a measure for consumers with a high consumption to compensate for the difference between the price of the energy component in the contract and 40 €/MWh³ (only to volumes below 80% of the 2021 consumption level).

³ The discount cannot exceed 40 euros/MWh and its application cannot result in an energy price lower than 30 euros/MWh.

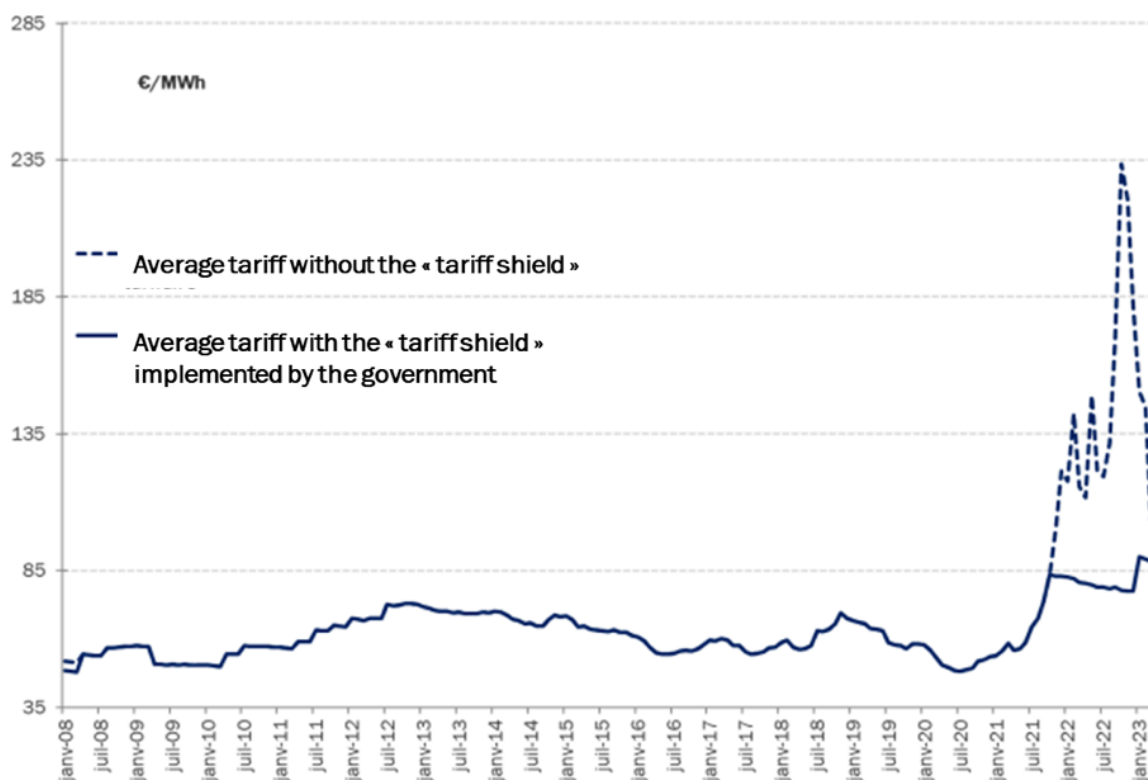


Figure 6 : Evolution of gas regulated tariff in France (excl. taxes) in constant 2023 euros⁴

Measures targeting vulnerable consumers have been extended in the second half of 2022 in several Member States. In Portugal for instance, a €2.4 billion euros package was introduced in September 2022 to support low-income citizens against rising energy prices (consisting of the “Families first” package providing vouchers to low-income families, and lump-sums for pensioners). In December 2022, the Portuguese government approved a special support of 240€ for families benefiting from the social tariff for electricity. Portugal also introduced a tax exemption on electricity bills for vulnerable consumers.

Measures targeting SMEs have also been maintained. For instance, in France, the emergency measures for SMEs introduced in 2023, whereby the State covers the difference between the electricity contract price and €180/MWh on 50% of the consumption, are expected to be maintained in 2024.

Those new emergency measures also targeted large businesses and industrial companies. In Portugal, the “Program to Support Gas-Intensive Industries” introduced in 2022, providing gas-intensive companies with non-repayable grants, was further extended in 2023. This extension increased the level of support, the number of beneficiaries, and introduced additional assistance to compensate gas cost increases and operating losses, as well as new line of credit for certain companies. In Slovenia, a measure was introduced for large business consumers to control contract prices for electricity supplies in 2023 (limiting

⁴ Source: CRE (2023), Observatory of electricity and gas retail markets – Q1 2023

the price for the daily tariff according to a formula linked to forward prices on the German Power Exchange as well as supplier's capped upstream cost).

Interventions on wholesale markets in Portugal and Spain, through the so-called "Iberian mechanism" have also been extended. In March 2023, the governments decided to extend the mechanism until 31st December 2023. An analysis on the impact of this mechanism is presented in Box 1.

Various mechanisms have been implemented by the Member States to finance these additional emergency measures. In Greece, the government introduced in July 2022 a temporary mechanism (until the end of 2023) to cap revenues of power producers based on generation source, including gas, coal, RES and hydro. The revenues received above these caps is used to reduce consumer energy bills. In Portugal, the reduction in network charges was financed thanks to the revenues collected from RES support schemes (when wholesale prices are higher than strike price for CfD) and the PPA for a coal-fired power plant, as well as from the sale of CO2 licenses and the revocation of the interruptible scheme.

In the area of security of supply, France introduced several emergency measures in August 2022, including measures to facilitate the commissioning of a new floating LNG terminal, the possible requisition of gas-fired power plants to ensure they operate only when necessary, and to enable the increased use of coal-fired power plants if security of supply was at risk. In Portugal, to ensure security of supply in case of a supplier bankruptcy or if consumers cannot find an offer in the market (eg. consumers with a debt with the supplier of last resort), a default tariff at a regulated price has been introduced for those situations.

Box 1- Lessons learnt from the Iberian price cap mechanism introduced in Spain and Portugal in June 2022

The so-called "Iberian" mechanism was introduced in Spain and Portugal in June 2022, for an initial period of one year after the approval by the European Commission. The principle of the mechanism is to lower electricity prices on the wholesale markets exogenously. Power plants that use natural gas or coal to produce electricity receive direct grants to cover part of their fuel supply costs, when their fuel supply costs exceed a threshold (initially set at €40/MWh for the first six months, with a gradual €5/MWh increase each month afterwards). Given that the price of electricity on the day-ahead market is often set by the marginal cost of gas or coal-fired power plants (often the last on the merit order), this mechanism enable to lower the clearing price.

At the end of March 2023, the Spanish and Portuguese governments decided to extend the mechanism for an additional seven months, until the end of 2023, to maintain the possibility to react to potential future energy price spikes, especially in the

context of the upcoming winter 2023-2024 and the needs to replace Russian pipeline gas flows. Since the beginning of the extension period, the mechanism has not been active yet.

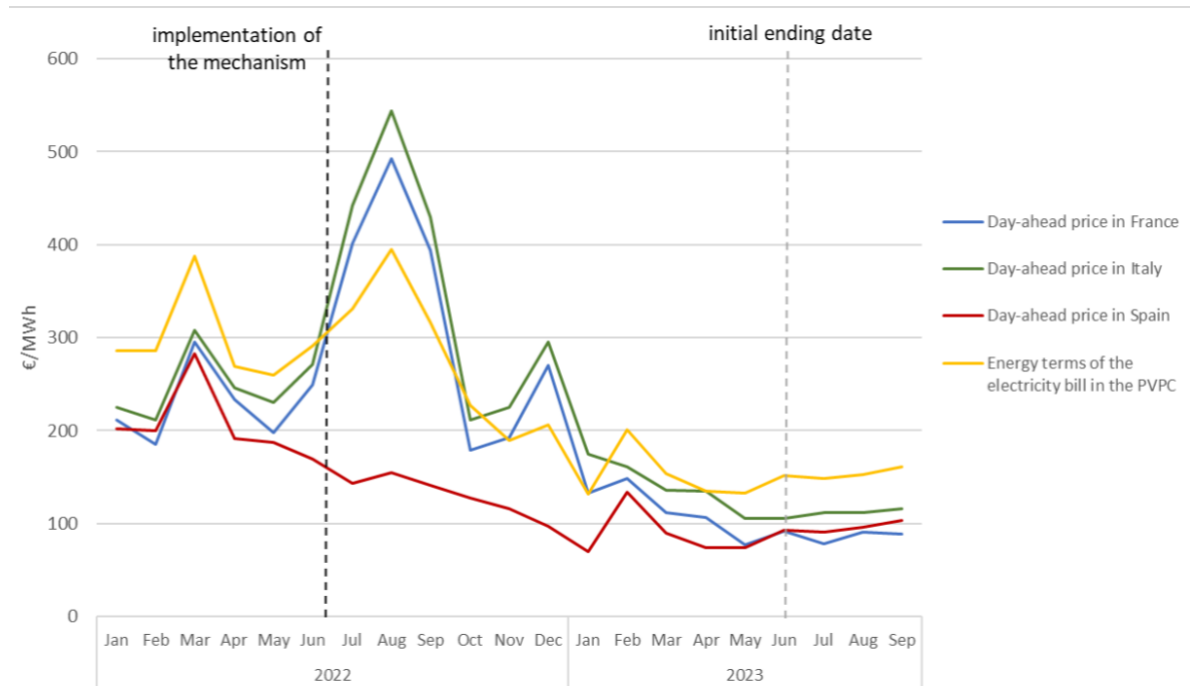


Figure 7 : 2023 Evolution of day-ahead and PVPC electricity price in Spain, compared with other EU Day-ahead prices, 2022-2023⁵

According to the Portuguese energy regulator, this mechanism provided substantial benefits for Portuguese and Spanish electricity consumers, by lowering the final price for consumers exposed to wholesale prices. The benefits of this mechanism have been estimated according to a methodology comparing the evolution of prices observed on the markets with a theoretical counterfactual scenario assuming that the mechanism had not been implemented. According to these estimates, average wholesale electricity prices between the start of the mechanism and late January 2023 were reduced by more than 100€/MWh compared with the counterfactual scenario (124 €/MWh instead of 236 €/MWh). In this period, subsidies to thermal power plants reached on average 69 €/MWh, meaning that the final prices for consumers exposed to wholesale prices were on average 193 €/MWh, 18% lower than the counterfactual scenario (236 €/MWh).

According to the estimates, the total net benefits for Spanish and Portuguese consumers amounted €5 billion between the start of the mechanism and late January 2023. This surplus resulted from the €12.3 billion euros savings stemming from the reduction in wholesale prices, reduced by the €7.3 billion cost for compensating thermal power plants.

⁵ Data from Red Eléctrica

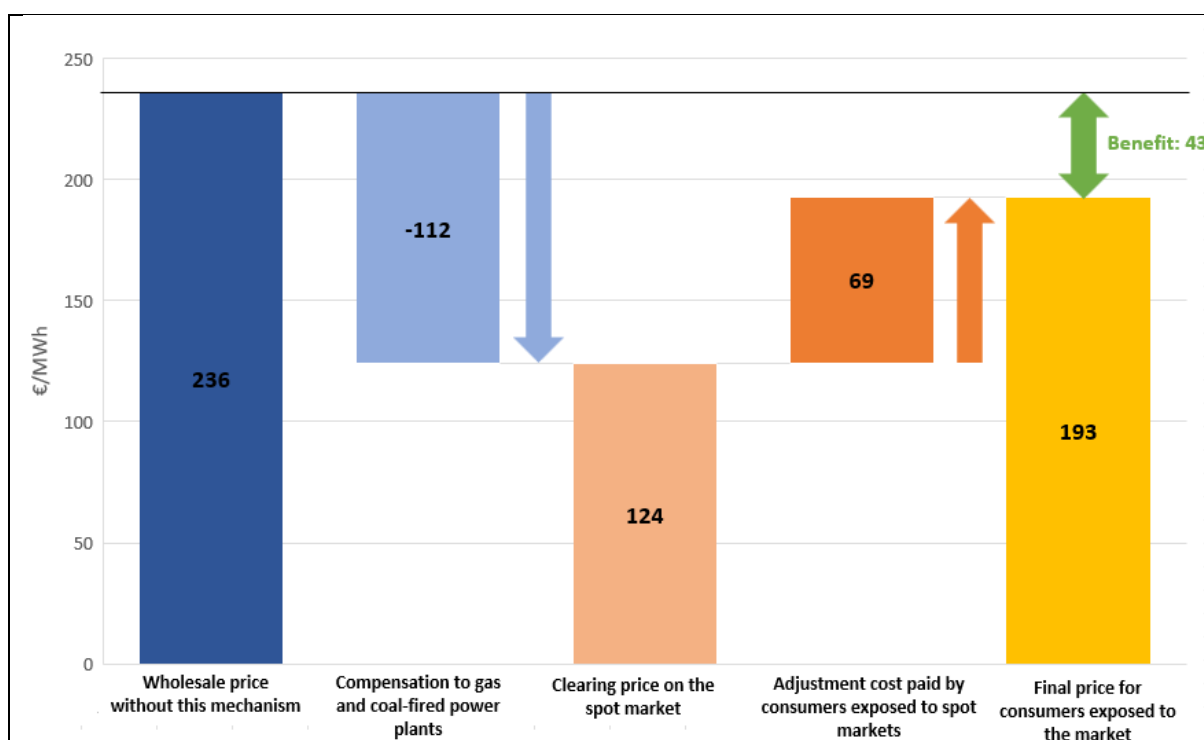


Figure 8 : Effect of the Iberian price cap (average prices between June 2022 and January 2023 in Spain and Portugal)

Most of the costs for compensating thermal power plants were supported by electricity consumers benefitting from the measure, namely consumers exposed to market prices (€6.7 billion). Consumers with fixed-price contracts signed before 26th April 2022 were exempted from contributing to the financing of this measure. A smaller share of the costs was also financed **through the collection of additional congestion rents at the interconnexion between Spain and France** (€0.6 billion), as the lower wholesale prices in Spain contributed to increased price spreads with France and thus to increased power flows from Spain to France and, therefore, to an increased congestion income for TSOs. Most of the payments to thermal power producers were received by gas-fired power plants (92%), while the rest was received by coal-fired power plants. 83% of the support payments went to thermal power producers in Spain, while 17% were received by generators located in Portugal.

The share of consumers affected by this measure was gradually expanded. While only 56% of Spanish and 37% of Portuguese consumers benefited from this measure in June 2022, this share increased to 84% and 66%, respectively, by the end of February 2023. This was linked to the fact that some market participants with long-term fixed-price contracts signed before 26th April 2022 were exempted from participating to the mechanism, but the expiration or renewal of their contracts obliged them to participate.

This mechanism mostly benefited to consumers in Spain, due to the differences in retail price structures in both countries and the share of long-term fixed-price

contracts in power generation. In Portugal, regulated tariff for vulnerable consumers were linked to a pre-set fixed price, thus not being exposed to wholesale prices. In Spain, at the beginning of the energy crisis, retail electricity prices were highly correlated to spot prices, particularly with the regulated PVPC tariff (“Voluntary Price for Small Consumers”) which is paid by around 40% of Spanish domestic consumers⁶ and which contains an indexation to hourly prices on the daily and intraday markets. In addition, a part of supported renewable generation in Portugal concluded contracts before 26th April 2022 on a long-term basis at a fixed price.

c. Overall, public spending to finance emergency measures and protect consumers reached very high levels in the EU

Since the beginning of the energy price surge as of fall 2021, EU Member States have implemented various emergency measures to protect consumers, which have varied in nature, in scope and in duration, depending on the structure of national energy retail markets and the exposure of consumers to the price crisis. The magnitude of the public funds that have been needed to finance these measures can be appreciated from several national case studies.

In Italy, the total cost of the emergency measures was estimated at almost €48 billion, equivalent to 2.5% of the GDP. Most of this public spending was dedicated to tax credits (€13 billion), followed by one-off allowances for families, employees, self-employed and pensioners (€9 billion). Public expenditure related to gas purchase and storage program conducted by GSE and SNAM on behalf of the State amounted to €7.1 billion. Capital losses incurred by the two operators, SNAM and GSE, represented an additional cost of €4 billion. Lastly, public spending for the so-called gas and electricity bonus (a bill reduction for low-income households) reached around €4 billion in 2022.

In France, the gross cost of emergency measures to protect consumers against the electricity and gas price surge reached €65 billion for the period 2022-2024. Measures to contain the rise in electricity bills amounted to €55 billion, including €22 billion for the electricity “tariff shield” (€3 billion in 2022, €16 billion in 2023, and €3 billion expected in 2024), €9 billion for the tax reduction on electricity bills in 2022, and €8 billion for the supply of additional volumes of nuclear generation sold at a regulated price in 2022. For gas, emergency measures to contain the rise in gas bills represented a cost of €9 billion (allocated to the gas «tariff shield», implemented from early 2022 to mid-2023). On the other side, public revenues recovered from the crisis enabled the State to retrieve €22 billion in 2022-2023. Those incomes include revenues from the collection of part of the inframarginal rent (mainly

⁶ Source: Red Eléctrica

from RES producers)⁷, as well as revenues related to RES support mechanisms (during the crisis, when wholesale prices exceeded guaranteed prices for RES generator, producers returned surplus revenues to the State). Overall, the net cost of these emergency measures in France thus reached €42 billion over 2022-2024.

4.2. Recent developments in other countries that have been impacted on both electricity and gas markets

a. In Türkiye, wholesale and retail price recent evolutions followed EU price trends

Since the beginning of the price surge in Europe, wholesale gas and electricity prices in Türkiye followed EU price trends, due to the high dependence of the country on energy imports, the electricity production mix highly based on coal and gas, and the growing indexation of Turkish gas supply contracts to EU gas prices.

Recent developments show that Turkish wholesale prices continued to rise until September 2022 (daily gas prices peaked at around 140 €/MWh and wholesale electricity prices peaked above 200 €/MWh in September 2022), before falling sharply after that date, as observed in the EU. In total, between September 2022 and May 2023, wholesale gas prices have been divided by three, while daily electricity prices have been more than halved.

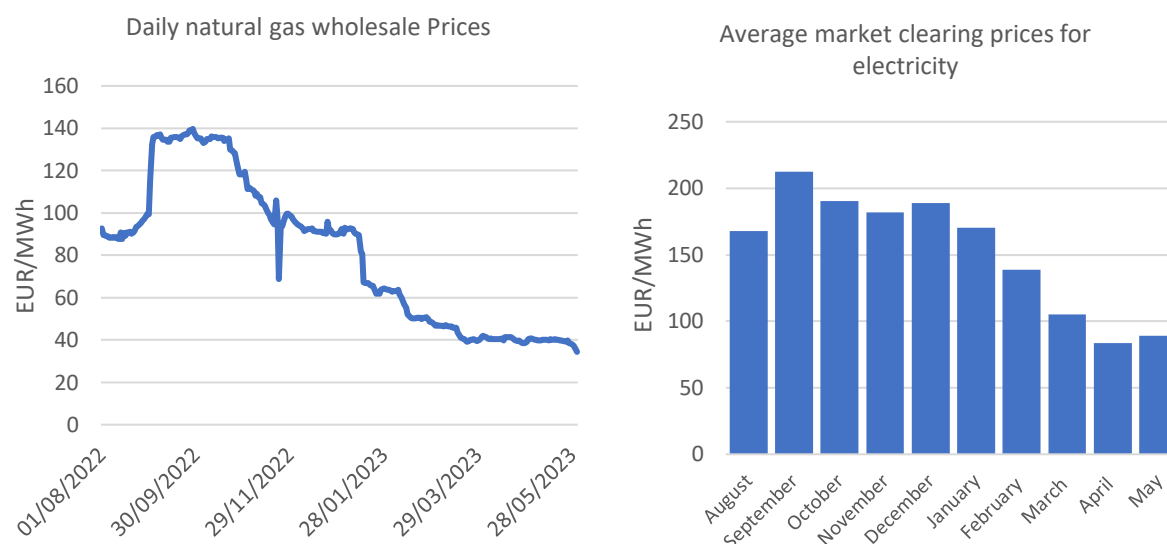


Figure 9 : Evolution of wholesale gas and electricity prices in Türkiye between August 2022 and May 2023

On the electricity retail market, final prices for both residential and industrial consumers have broadly followed wholesale electricity price trends, but with more limited fluctuations. They increased strongly between August and September 2022 (+20% for households and +50%

⁷ As set in the emergency EU Council Regulation of 6 October 2022. For instance, for wind and PV producers, the French government capped market revenues at €100/MWh.

for industrial consumers), then stagnated until the end of 2022, before dropping in the first half of 2023 (-15% for households and -30% for industrial consumers between January and June 2023).

With regards to gas retail prices, the price trends have differed between residential and industrial consumers. Household prices remained relatively stable between August 2022 and June 2023 (after having increased since early 2022), while prices for the industry have fluctuated, following wholesale gas market trends. The latter have doubled between August and September 2022, before stagnating until the end of 2022 and finally decreasing throughout 2023 (-40% between January and June 2023) to return to August 2022 levels.



Figure 10 : Evolution of retail prices (incl. taxes) for gas and electricity in Türkiye between August 2022 and June 2023

Note: The “high consumption” tariff for electricity is applied to residential consumers connected on low voltage network and whose average daily consumption exceeds 8 kWh. This higher tariff is applied only for the portion exceeding the limit.

Since the beginning of the price surge, various measures had been implemented by the government to protect consumers (including the removal of taxes in electricity bills, the expansion of State support to vulnerable consumers and the introduction of a direct support mechanism to contain the rise in household gas prices). Since then, additional emergency measures have been implemented, focusing on the electricity market.

To reduce electricity bills, the government introduced stepped tariffs for household and commercial consumers (as of January and March 2022), guaranteeing consumers a 30% lower price for the consumption below a certain threshold. In March 2022, the government also expanded the scope of the household consumer group to include non-profit organizations and rural water supply facilities.

The government also introduced several measures to collect additional revenues to finance the emergency measures. All excess revenues coming from RES support schemes are transferred to suppliers’ regulated portfolio. A 6-months mechanism has been introduced to transfer market revenues of producers above a certain cap (specific to each type of

production source) to suppliers' regulated portfolio. Finally, the consumption limit of "last resort supply" tariffs for high consuming customers, which is directly linked to market clearing price, has been decreased since July 2022.

b. In Lebanon, the high dependence on oil imports affected the electricity sector

Most energy supplies in Lebanon comes from oil, which is especially used to produce electricity, entirely imported. The country has thus been impacted by the worldwide rise in oil prices since the beginning of the war in Ukraine, whose consequences have been exacerbated by the devaluation of the national currency. According to the Ministry of Energy and Water, prices for privately-owned diesel generators, supplying electricity to some consumers when the public supplier Electricité du Liban limits its production, has been constantly increasing between June and October 2023.

For the first time in thirty years, Lebanon modified its electricity tariffs in November 2022. While electricity retail prices were on average 0.092 USD/kWh in the past, the tariffs were increased from that date to an initial level around 0.1 USD/kWh for consumptions lower than 100kWh, and 0.27 USD/kWh for consumptions higher this threshold.

As shown in [section 4.1](#), Lebanon has been facing extremely high inflation rates over the past three years, reaching 230% in August 2023 compared with the previous year.

4.3. Recent developments in countries that have been impacted on their electricity market only

a. In Montenegro, the main impact was on the DSO's costs for covering network losses

Montenegro does not consume natural gas. Its electricity is mostly produced from hydropower and coal-fired power plants. The country imports and exports high volumes of electricity with neighbouring countries (with regards to its consumption), notably to compensate the variability of hydropower production, which was, for instance, 37% lower in 2022 than in 2021. These electricity exchanges make wholesale electricity prices in Montenegro directly affected by electricity price levels in Europe.

For instance, in summer 2022, the drought that negatively affected the domestic hydropower output led the state-owned power producer EPCG to import high amounts of electricity for a three-month period to cover the demand, when wholesale electricity prices in the rest of Europe were extremely high. Overall, in the third quarter of 2022, the company imported 294 GWh of electricity (representing 11% of the annual consumption) for a total estimated cost of €100 million, since on average wholesale price for imports were above 300 €/MWh⁸.

⁸ Source : <https://balkangreenenergynews.com/drought-to-cost-montenegros-epcg-utility-eur-100-million-in-third-quarter/>

However, compared with other Balkan countries such as Albania, its net import balance is slightly negative, meaning that Montenegro has been a net electricity exporter in 2021 and 2022.

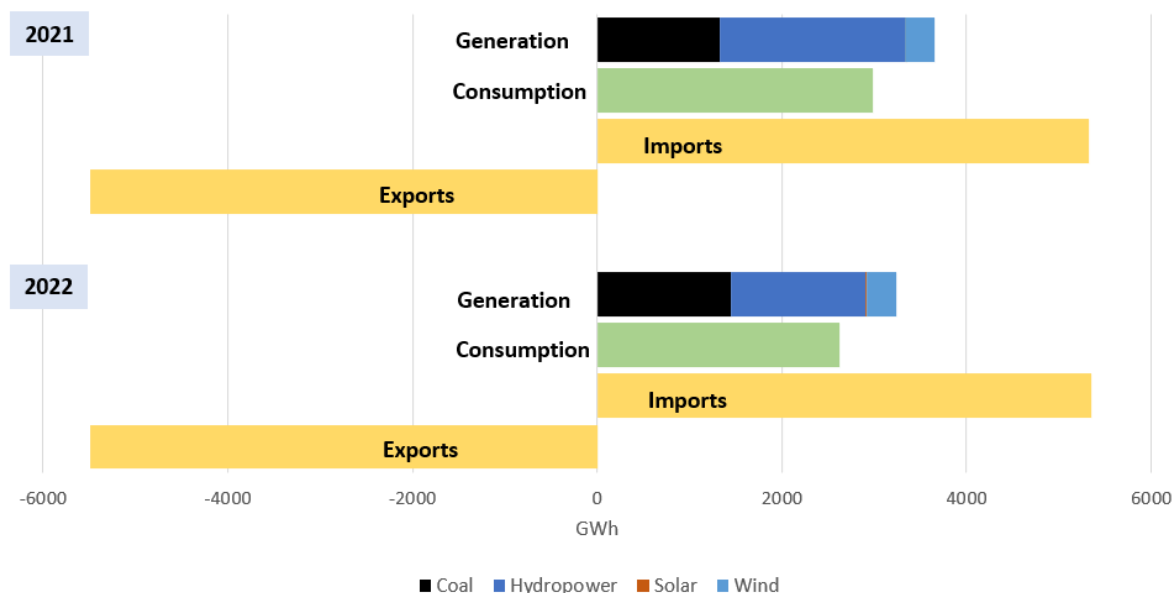


Figure 11 : Evolution of Electricity mix in Montenegro, in 2021 and 2022⁹

The recent evolutions showed that average prices in the Montenegrin day-ahead market (which started as of April 2023) have fluctuated around 50-120 €/MWh between April and November 2023. Yet, as in last year's analysis, the high wholesale prices did not affect retail prices, which remained relatively stable between the beginning of the crisis and May 2023.

However, the high wholesale prices had an impact on the distribution system operator (DSO), which faced an unexpected surge in the costs for the procurement of electricity for covering distribution losses, which depend on wholesale market prices. For example, for 2022, the national regulatory authority REGAGEN had initially approved a tariff methodology providing that network losses would represent 14% of the DSO revenues, while they accounted for 46%¹⁰. Since those surging costs for the DSO significantly exceeded the approved amounts to be recovered from tariffs, thus jeopardizing the DSO's financial stability, the government introduced a measure to mitigate this cost increase as of January 2023. It imposed to the producer selling electricity to the DSO to cover network losses to conclude with the DSO on special terms, at the level of a regulatory approved price, using credit notes, for the period from January 1st to February 28th, 2023.

⁹ Source: Country case

¹⁰ Source: ECDSO-E (September 2022), Position paper – Impact of Recent Energy Crisis on the Operation and Viability of Electricity Distribution System Operators in the Energy Community

4.4. Recent developments in countries relatively unaffected by the energy price surge

a. Bosnia and Herzegovina has remained unaffected by the price surge due to its energy mix and its position as a net electricity exporter

In last year's analysis, Bosnia and Herzegovina was one of the Mediterranean countries less affected by the energy price surge, due to its low dependence to energy imports, the small contribution of natural gas in its energy mix and its position as a net electricity exporter in the Balkan region.

On its electricity market, Bosnia and Herzegovina recorded record-high revenues from domestic electricity generation companies, due to the price surge in wholesale markets in Europe. The country produces electricity almost entirely from domestic coal (whose prices have thus not been affected by global coal price surge observed since late 2021) and from hydropower plants, accounting for 64% and 32% of the production in 2022 respectively. In 2022, its net electricity exports accounted for 20% of the total power production of the country. Consequently, retail electricity prices for households remained unchanged since the beginning of the crisis, while prices for industrial consumers recorded a relatively small increase of 5-10%.

The gas sector in Bosnia and Herzegovina does not have a large impact on the country's energy picture (in 2019, only 3% of the final energy consumption was from natural gas). Therefore, even if all gas supplies come from one supply route from Russia and even if an increase in wholesale and retail prices has been recorded (+30% in 2022), these developments have overall little impact on the country.

Overall, consumers in Bosnia and Herzegovina were relatively unaffected by the energy crisis in Europe, this is why no measures to protect consumers has been implemented, compared with other Balkan countries.

b. Jordan was relatively protected from the gas price surge due to long-term gas supply contracts

As mentioned in last year's analysis, even if Jordan energy system is highly dependent on imported natural gas (more than 75% of its electricity is produced from gas-fired power plants and its domestic natural gas production is low), the conclusion of long-term gas supply contracts enabled the country to be relatively protected from the gas price surge. Almost all its electricity consumption is produced domestically (interconnectors are mainly used to ensure the stability of the network).

In Jordan, subsidized tariffs (for households, houses inside farms and elevators in residential buildings) as well as non-subsidized tariffs are fixed. Their fixed level is defined by the

authorities (new tariffs apply as of April 2022) and depend on the level of electricity consumed.

However, Jordan energy system was affected by the price developments of oil, which account for a high share of its total energy supply and 5% of its electricity production. Jordan's oil bill rose by 44% in the first two months of 2022 compared with 2021.

5. LONG-TERM CHALLENGES POSED BY THE CRISIS

4.1. Recent inflation developments

Compared with last year's analysis, inflation has significantly decreased in almost all Mediterranean countries (**Error! Reference source not found.**). Except for three countries (Lebanon, Egypt and Tunisia), the annual change in consumer price index in the Mediterranean region was, in August 2023, below the level observed in August 2022.

In the Eurozone, inflation surged as of the end of 2021, peaking in October 2022 above 10%, before progressively decreasing since then, to reach 5% in August 2023 (**Error! Reference source not found.**). The same trend was observed in the EU's neighbouring countries, namely in Turkey, Bosnia and Herzegovina and Albania, with inflation rates peaking in October 2022 (respectively at 85,5%, 17% and 8%) before falling as of the end of 2022. A similar development was also observed outside Europe, for example in Morocco, where inflation rose steadily from the end of 2021, peaking in February 2023 at around 10%, before declining throughout 2023.

However, in the majority of those Mediterranean countries where inflation has fallen in recent months after a price surge in 2022, inflation rates were, in September 2023, still above the levels recorded at the beginning of the energy price surge in autumn 2021. This is the case in EU countries such as Italy, Slovenia, Malta, Croatia and France, as well as in Turkey, Morocco and Israel. In three other European countries, namely Bosnia and Herzegovina, Greece and Portugal, inflation has returned to the level of late 2021.

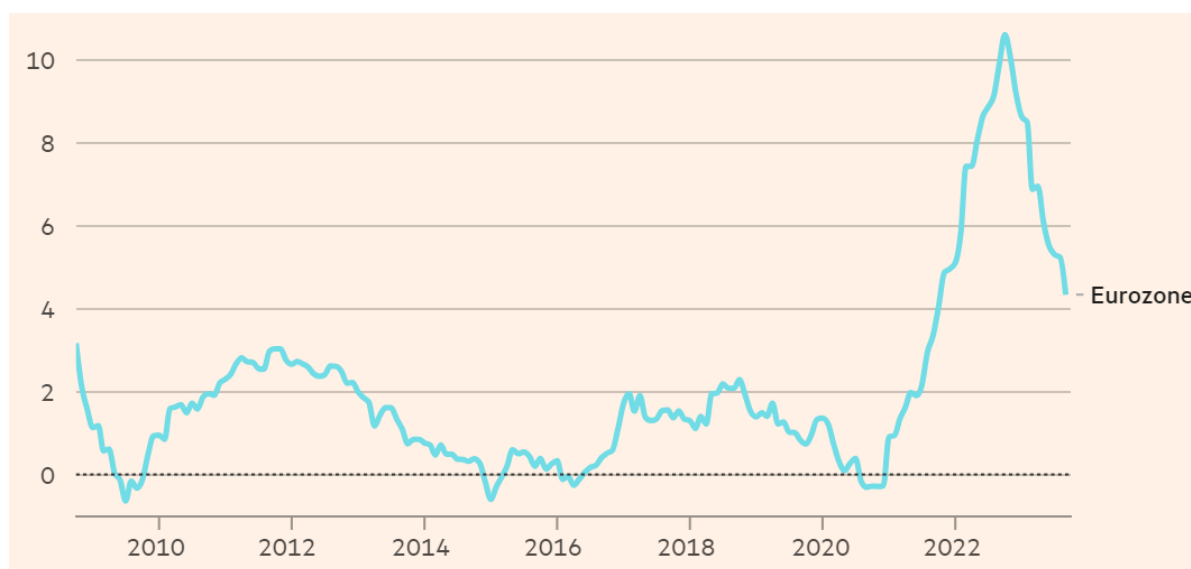


Figure 12 : Evolution of inflation in the Eurozone, 2008-2023 (annual % change in consumer price index)¹¹

¹¹ Financial Times (2023), Global inflation tracker

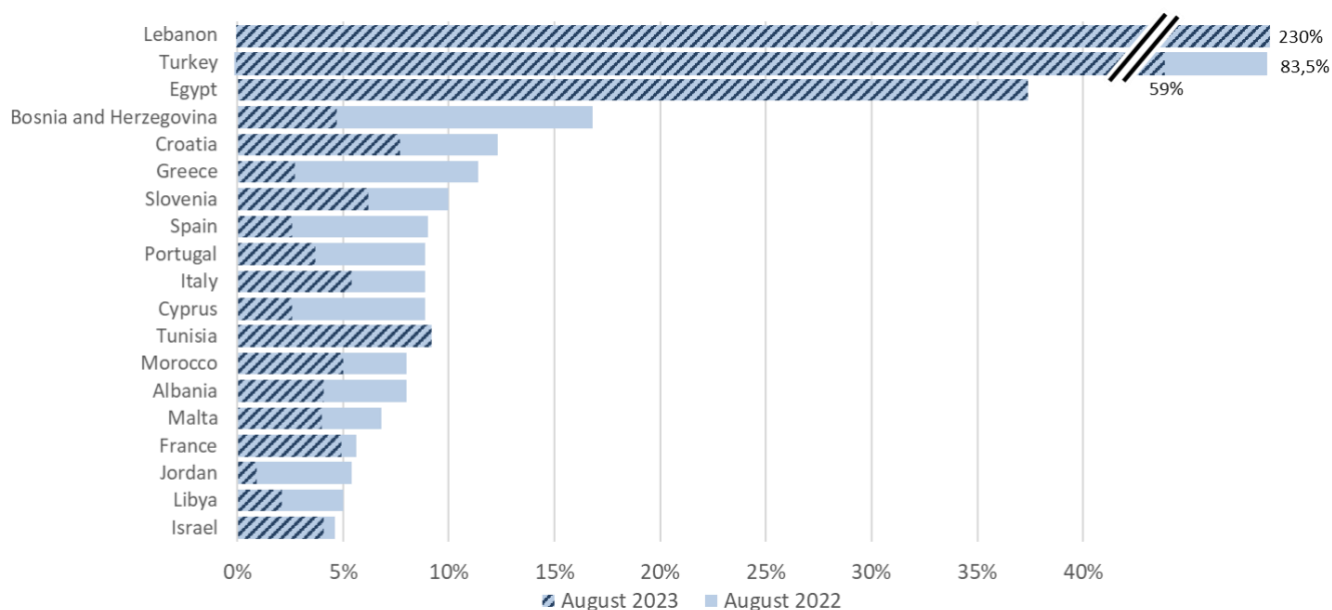


Figure 13 : Inflation in the Mediterranean countries (annual % change in consumer price index) in August 2023 compared with August 2022¹²

4.2. Future trends & perspective

Gas future prices:

The evolution of gas TTF future prices across 2023 and 2024 has been characterized by significant volatility and some notable trends. Here's a summary of key price movements:

2023

January - March: Prices surged to record highs, reaching a peak of EUR 70 per megawatt-hour (MWh) in February due to a combination of factors, including:

- The ongoing conflict in Ukraine and its impact on Russian gas exports
- Low gas storage levels in Europe
- Strong demand for natural gas from Asia

April - September: Prices gradually declined from the March highs but remained elevated compared to pre-crisis levels. This was due to:

- Increased supply from non-Russian sources, including LNG imports and increased gas production from Norway.
- Milder weather conditions reducing demand for heating gas.

¹² Analysis based on data from Financial Times (2023), Global inflation tracker.

October - December: Prices experienced another sharp increase, reaching a high of EUR 60 per MWh in November, driven by:

- Concerns about potential supply disruptions ahead of the winter heating season.
- Tighter gas storage levels.

2024

January: Prices have fallen significantly since the end of 2023, reaching EUR 27.2 per MWh on January 22, 2024. This is due to:

- Warmer than expected winter temperatures across Europe, reducing gas demand.
- Continued efforts to diversify gas supply sources.

Overall Trends:

The evolution of gas TTF future prices in 2023 and 2024 highlights the high volatility and sensitivity of gas prices to geopolitical events, supply disruptions, and weather conditions as shown in the figure below:



Figure 14 : Evolution of gas Dutch TTF Natural Gas Futures across 2023 and 2024 (EUR/MWh)¹³

The EU's efforts to reduce reliance on Russian gas and diversify its gas supply sources could help stabilize gas prices in the long term.

Future Outlook:

It is difficult to predict with certainty how gas TTF future prices will evolve in the coming months and years. However, the following factors are likely to influence prices:

- The ongoing conflict in Ukraine and the potential for further disruptions to Russian gas exports & other conflicts in the region.
- The pace of EU efforts to reduce reliance on Russian gas.
- Weather conditions and energy demand

¹³ Source: ICE Endex Dutch TTF Natural Gas Futures – 23 Jan. 24 update.

- Market participants should carefully monitor these factors and adjust their hedging strategies accordingly.

Conclusions

Achieving sustainable economic development relies heavily on embracing an economic model centered around "production." A crucial aspect of this model is the cost of energy, a key input in the production of goods. It holds significant importance for the economies of all countries, influencing factors such as competitiveness, sustainable development, inflation, and social welfare. Countries aim to avoid elevated energy prices as they can result in long-term consequences like high inflation and a decline in social welfare. Having stable and reasonable energy prices is beneficial not only for governments, investors, and producers but also for consumers.

In this context, **the first Price Surge Report** served as a crucial benchmark, providing valuable insights into the evolving energy landscape during a critical timeframe between 2021 and 2022.

This follow-up report focused on the most recent developments in the energy price surge after August 2022 in the Mediterranean Region and presented a comprehensive analysis, not only relying on the responses and data from our questionnaire on energy price increases in the 13 MEDREG member countries but also incorporating reliable sources such as ACER, enhancing the overall depth of the analysis, particularly for European Union countries.

The analysis reflects the commitment to understanding the divergent effects of the crisis on different regions. The notable upsurge in energy prices, stemming from the Russia-Ukraine conflict, didn't uniformly affect every country in the Mediterranean region. Several factors, including the proportion of natural gas in a country's energy composition, whether they were net importers of natural gas, and the existence of long-term contracts, significantly contributed to the diverse impacts observed.

Several measures such as tariff-shields and supports schemes for vulnerable consumers, have been taken and extended by various countries in order to mitigate the effects of the energy price surge, to ensure security of supply and to protect consumers by National Regulatory Authorities or other governmental agencies in 2022 and even in 2023. Public spending to finance emergency measures and protect consumers reached very high levels especially in the EU.

In the beginning, the design of the electricity market in Europe was often scapegoated for the increase in electricity prices. However, as noted in ACER's report¹⁴ on the matter, the electricity market design had a mitigating effect on the impact of these price increases. Nevertheless, there is a consensus that certain enhancements and regulations are needed to strengthen the electricity market in Europe. Thus, the negotiations in Europe are ongoing mainly on, focusing on issues such as protecting consumers against short-term price volatility, enhancing market access to more stable longer-term contracts and markets, and accelerating the development of renewable energy sources (RES).

¹⁴<https://www.acer.europa.eu/events-and-engagement/news/press-release-acer-publishes-its-final-assessment-eu-wholesale>

This report, along with the recent developments in EU market design, based on the latest available information in 2023, also provides a forward-looking perspective, recognizing the inherent uncertainty but striving to offer valuable insights into the potential trajectories of the energy landscape.

After reaching unprecedented levels in summer 2022, wholesale gas and electricity prices have progressively declined in EU. On May 2023, TTF month-ahead price dropped below 30€/MWh for the first time since the beginning of the crisis. However, prices still remain above pre-crisis levels.

Regarding electricity prices, since January 2023, day-ahead prices have stabilized around 100 €/MWh, though still two times higher than the pre-crisis level. Prices also remain volatile and exposed to unexpected developments on the gas market which is almost always the case in electricity markets since usually the Natural Gas Power Plants sets the marginal price in the market.

Despite the fall in wholesale prices in the EU, retail prices still remain higher than the levels before the crisis (1,5 times higher for electricity and 2 times higher for gas on average in April 2023 compared with April 2021).

Recent retail price evolutions have varied between EU Member States depending on a multitude of parameters, including the category of consumers, the regulated/deregulated nature of the retail market, the nature of the contract and exposure to spot prices, the expiration date of the contracts, whether government maintained or not, emergency measures to contain the rise in energy bills (or how quickly they reduced the support), as well as the methodologies to calculate regulated tariffs.

Outside EU, for example Türkiye, wholesale gas and electricity prices followed EU price trends. Gas prices have fallen by a quarter, electricity prices have fallen by half since August 2022. The natural gas prices decreased from 140 to 30 Euro/MWh due to the dependence of the country on energy imports, natural gas still has the highest share in the electricity generation mix and the growing indexation of Turkish gas supply contracts to EU gas prices.

In the Balkan region, wholesale prices were also partly affected by the EU price evolutions. Wholesale electricity exchanges of Montenegro directly affected by the electricity price levels in EU, resulted in a new tariff for DSO. Bosnia Herzegovina, on the other hand, was among a few countries enjoying the price surge since it does not import much natural gas and is a net electricity exporter in the Balkan region. Retail electricity prices for households remained unchanged in this country, while for industrial consumers increased by 5-10%.

In the south shore region Jordan, though highly dependent on imported natural gas, was an enviable country relatively protected from the gas price surge due to long-term gas supply contracts.

Compared with last year's analysis, inflation has significantly decreased in almost all Mediterranean countries except for three countries (Lebanon, Egypt and Tunisia), the annual

change in CPI in August 2023 was below the level observed in August 2022. Lebanon has been facing extremely high inflation rates over the past three years, reaching 230% in August 2023 compared with the previous year.

In the Eurozone, inflation peaked in October 2022 like 10 %, before progressively decreasing to around 4 %. The same trend was observed in the EU's neighboring countries, namely in Türkiye, Bosnia and Herzegovina and Albania, but also in Morocco. However, in the majority of countries where inflation has fallen in recent months, inflation rates were, still above the levels recorded at the beginning of the energy price surge.

High inflation is an undesirable phenomenon as it reduces individuals' purchasing power, undermines confidence, and disrupts social welfare. Given that the increase in energy prices is a significant factor contributing to high inflation, ensuring predictability and sustainability in energy prices is crucial.

The pace of countries' adaptation to climate and net-zero commitments, energy policies pursued by countries with significant energy demand such as China and India, the mildness or severity of winter seasons, geopolitical tensions, the speed of energy transition and digitalization, increasing grid investments, subsidies, and the discovery of new reserves as well as the number of long-term contracts are among the many factors that can be considered as elements influencing short and long-term global electricity and natural gas prices.

In summary, although the impacts may not be felt as intensely as initially, energy prices are still at elevated levels in the Mediterranean. While all countries have been affected to varying degrees by this crisis, it should serve as a lesson, prompting the need to accelerate energy transition. As always, MEDREG continues to provide valuable services and addressing the challenges as a platform for necessary information exchange to help Mediterranean countries cope with this crisis in the face of evolving regulatory landscapes.