

MACROECONOMIC CONSEQUENCES OF THE ENERGY CRISIS IN ROMANIA (2022–2025)

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Abstract

This paper analyses the macroeconomic impact of the 2022–2025 energy crisis on the Romanian economy. The study investigates developments in energy prices, inflation, purchasing power, economic growth, labour market conditions, and fiscal performance using official data from national and European institutions. The results indicate that the energy shock was a major driver of inflation and contributed to slower economic growth, declining real purchasing power, and increasing fiscal imbalances. While government support measures reduced part of the immediate social impact, they also generated significant budgetary costs. The findings suggest that the crisis acted both as a macroeconomic shock and as a catalyst for structural adjustments in Romania's energy sector, with implications for long-term economic resilience and energy security.

Keywords: Energy crisis; Inflation; Economic resilience; Fiscal sustainability; Energy security

JEL Classification: E31, E62, H63, Q43, O47

1. Introduction

On 24 February 2022, the Russian Federation launched a full-scale military invasion of Ukraine, triggering the most severe armed conflict in Europe since the Second World War. Beyond its geopolitical consequences, the conflict rapidly evolved into a major energy crisis with significant implications for European economies. Prior to the invasion, Russia supplied approximately 40% of the European Union's natural gas consumption and around 27% of its crude oil imports. The progressive disruption of these energy flows generated an unprecedented supply shock that affected energy markets, inflation dynamics, economic growth, and public finances across Europe (Eurostat, 2023a; IEA, 2022).

Although Romania occupied a relatively favourable position compared with several Central and Eastern European countries due to its substantial domestic hydrocarbon production, its integration into the European energy market exposed households and businesses to international price volatility. As a result, energy costs increased sharply, contributing to a substantial acceleration of inflation and requiring extensive government intervention. Annual inflation

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reached 16.8% in November 2022, representing the highest level recorded in Romania in more than two decades (BNR, 2022; INS, 2026a).

This study investigates the macroeconomic consequences of the energy crisis in Romania between 2022 and 2025. Specifically, it analyses the evolution of energy prices, inflationary pressures, purchasing power, economic growth, labour market developments, fiscal performance, and the effectiveness of government policy responses. The paper also evaluates the structural transformations accelerated by the crisis and discusses their implications for Romania's medium-term economic outlook.

2. Theoretical Framework and Literature Review

Economic theory defines a negative supply shock as an exogenous disturbance that reduces productive capacity or increases production costs, leading simultaneously to higher prices and lower output. Energy shocks represent a particularly important category of supply disturbances because energy constitutes a fundamental input in virtually all economic activities. Consequently, large increases in energy prices tend to generate inflationary pressures while weakening economic performance (IMF, 2023b).

Recent empirical evidence highlights the central role of energy markets in the inflation surge experienced by European economies after the pandemic and the outbreak of the war in Ukraine. Baba et al. (2023) demonstrate that inflation in Europe during 2021–2022 was largely driven by external energy and food price shocks. Their findings indicate that these effects were more pronounced in emerging economies, where energy and food account for a larger share of household expenditure. Similarly, Hansen, Toscani, and Zhou (2023) show that firms frequently transferred rising energy costs to final consumers and, in some cases, expanded profit margins, thereby amplifying inflation beyond the direct impact of higher input prices (Hansen et al., 2023).

The literature identifies five principal transmission channels through which energy shocks affect macroeconomic performance. First, higher energy prices increase production costs and contribute to cost-push inflation. Second, households allocate a larger share of their income to utility bills and fuel expenses, reducing discretionary consumption and weakening aggregate demand. Third, heightened uncertainty and increased operating costs discourage private investment and reduce medium-term growth potential. Fourth, rising energy import costs may deteriorate trade balances and current-account positions, placing pressure on exchange rates. Finally, governments often intervene through subsidies and compensation schemes, increasing fiscal expenditures and potentially worsening budget deficits and public debt dynamics (IMF, 2023b; Baba et al., 2023).

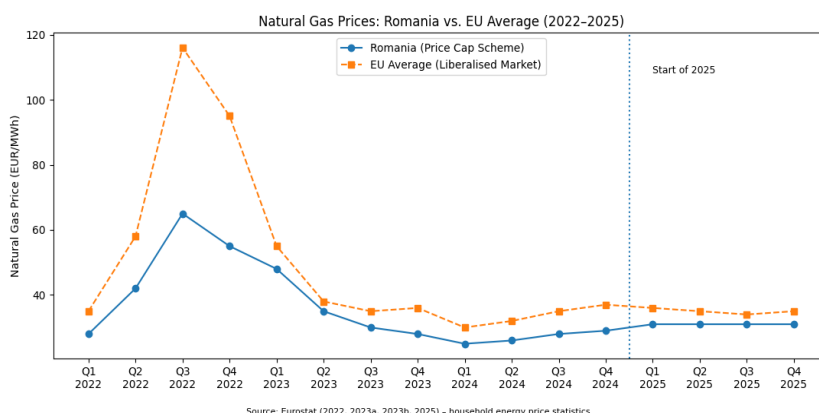
The current crisis shares certain characteristics with previous energy disruptions but also exhibits unique features. Unlike the oil crises of the 1970s,

which primarily affected petroleum markets, the post-2022 energy shock simultaneously disrupted natural gas, oil, electricity, and coal markets. The International Energy Agency (IEA) therefore described it as the first truly global energy crisis of the modern era (IEA, 2022). The multi-sectoral nature of the shock amplified its transmission across European economies and required large-scale policy interventions. According to estimates cited by the International Monetary Fund, European governments allocated more than €600 billion to energy-related support measures between late 2021 and early 2023 (IMF, 2023a). These theoretical considerations provide the analytical foundation for understanding Romania's experience during the energy crisis. The following sections examine how the shock affected inflation, economic activity, labour markets, and public finances, as well as the extent to which policy interventions mitigated its economic and social consequences.

3. Energy Price Dynamics and Inflationary Effects in Romania (2022–2025)

Romania entered the energy crisis from a relatively advantageous position compared with many Central and Eastern European countries due to its substantial domestic natural gas production and diversified electricity generation mix. Before 2022, domestic production covered approximately 85–90% of national gas consumption, reducing direct dependence on Russian imports (European Commission, 2024). However, Romania's integration into the European energy market exposed domestic consumers and businesses to international price volatility.

The outbreak of the war in Ukraine and the subsequent disruption of Russian energy exports generated unprecedented turbulence in European energy markets. Wholesale natural gas prices increased dramatically during 2022, reaching historical peaks across Europe (IEA, 2023; Eurostat, 2023a). Although Romania benefited from relatively high energy self-sufficiency, domestic prices followed the upward trend observed throughout the European Union.

Figure 1. Natural Gas Prices: Romania (Capped) vs. EU Average (2022–2025)

Sources: Eurostat (2022, 2023a, 2023b, 2025); National Bank of Romania (2022); Government Emergency Ordinance No. 6/2025.

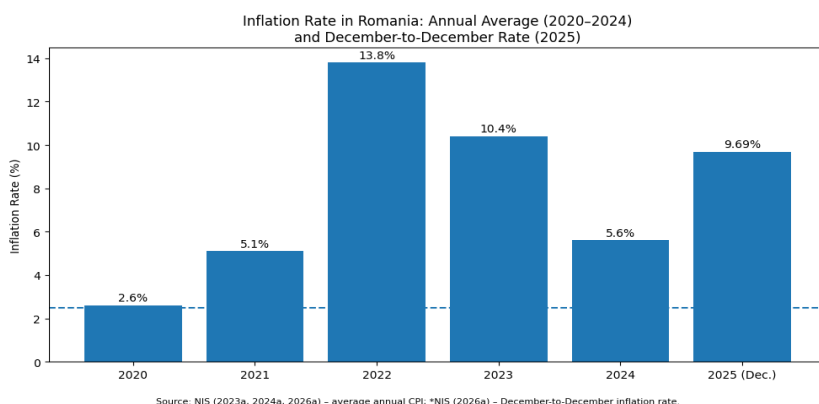
Figure 1 illustrates the substantial divergence between prices paid by Romanian households and the European average during the crisis period. Government price-capping measures maintained domestic prices significantly below market levels, particularly during the second half of 2022 when European gas prices reached their peak. According to National Bank of Romania estimates, the price-capping scheme prevented a considerably stronger inflationary shock and mitigated the immediate impact on household budgets (BNR, 2022).

According to Eurostat data, household electricity prices in Romania increased by more than 100% during 2022 compared with the previous year, while natural gas prices rose by approximately 165%, placing Romania among the countries most affected by energy price inflation (Eurostat, 2022). Nevertheless, government intervention prevented consumers from bearing the full burden of market prices.

By the first half of 2025, European natural gas prices had gradually stabilised as supply chains adjusted and dependence on Russian energy declined (Eurostat, 2025). Romania continued to maintain some of the lowest regulated household gas prices in the European Union due to the extension of support measures.

3.1 Inflation Dynamics and Monetary Policy Response

The energy shock rapidly translated into broader inflationary pressures throughout the Romanian economy. Annual inflation accelerated from moderate pre-crisis levels to 16.8% in November 2022, representing the highest inflation rate recorded in Romania in more than two decades (INS, 2026a; BNR, 2022). Rising energy costs increased production expenses across multiple sectors, generating substantial spillover effects on consumer prices.

Figure 2. Annual Inflation Rate in Romania (2020–2025)

Sources: National Institute of Statistics (2023a, 2024a); National Bank of Romania (2022, 2023a).

Figure 2 highlights the extraordinary acceleration of inflation during 2022, followed by a gradual disinflation process in 2023 and 2024. Average annual inflation vs. December-to-December inflation, NIS data confirm a December-to-December inflation rate of 9.7% in December 2025 compared with December 2024.

The evidence suggests that energy prices were the primary driver of inflationary dynamics during the initial phase of the crisis (Baba et al., 2023). However, inflation soon spread beyond the energy sector, affecting a broad range of goods and services through second-round effects.

National Bank reports indicate that core inflation also increased significantly during the period, confirming that the shock was transmitted throughout the economy rather than remaining confined to energy markets. This finding is consistent with the results of Hansen et al. (2023), who argue that firms often transfer rising energy costs into final prices, amplifying inflationary pressures. In response, the National Bank of Romania implemented the most aggressive monetary tightening cycle in its recent history, increasing the policy interest rate from 2.0% in early 2022 to 7.0% by January 2023 (BNR, 2023). Although this restrictive monetary stance contributed to reducing inflationary pressures, it also increased financing costs and weakened investment activity.

Inflation gradually declined to 10.4% in 2023 and approximately 5.8% in 2024. However, the expiration of electricity price caps in July 2025 generated a renewed inflationary impulse (INS, 2026a; EPG, 2025). Electricity prices increased by approximately 57% compared with previously regulated levels, contributing to a new acceleration in consumer price growth.

3.2 Purchasing Power and Household Welfare

The energy crisis had significant consequences for household welfare. Although nominal wages increased substantially between 2022 and 2025,

inflation consistently eroded purchasing power. Rising expenditures on energy and food reduced disposable income and constrained household consumption, particularly among lower-income groups (Baba et al., 2023).

Average net monthly earnings increased from approximately RON 3,836 in 2022 to RON 5,914 in December 2025 (INS, 2026b). Nevertheless, real wage growth remained weak and occasionally negative because consumer prices increased at a faster pace than incomes. Consequently, many households experienced a decline in living standards despite nominal income gains.

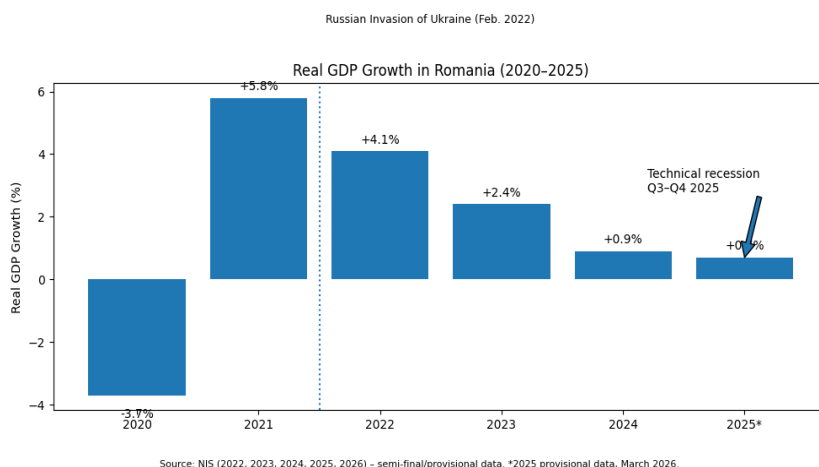
The Romanian case demonstrates how energy shocks affect households not only through higher utility bills but also through broader inflationary effects that reduce real incomes and weaken domestic demand. As a result, the energy crisis became both an inflationary and a social challenge, with consequences extending well beyond the energy sector itself.

4. Macroeconomic Consequences

4.1 Economic Growth and Labour Market Developments

Despite the severity of the energy shock, the Romanian economy demonstrated a relatively high degree of resilience during the initial phase of the crisis. According to data published by the National Institute of Statistics, real GDP growth remained positive throughout the 2022–2025 period, although the pace of expansion slowed considerably over time. Economic growth reached 4.1% in 2022, supported by robust domestic consumption, strong labour market conditions, and continued absorption of European funds. However, growth decelerated to 2.1% in 2023, 0.9% in 2024, and approximately 0.7% in 2025 (INS, 2026c).

Figure 3. Real GDP Growth in Romania (2020–2025)



Sources: National Institute of Statistics (2024b, 2026c); Eurostat (2023a).

As illustrated in Figure 3, Romania experienced a clear downward trend in economic growth following the outbreak of the energy crisis (European Commission, 2024). Higher production costs, declining purchasing power, tighter monetary conditions, and increased uncertainty reduced economic activity across several sectors. Although the economy avoided a prolonged recession during the first years of the crisis, growth became increasingly fragile.

A particularly concerning development emerged during the second half of 2025, when Romania experienced a technical recession during the second half of 2025. (INS, 2026c). Seasonally adjusted GDP contracted by 0.2% in the third quarter and by 1.9% in the fourth quarter compared with the previous quarter. Although annual growth remained marginally positive, these quarterly developments indicated a deterioration in underlying economic conditions. Sectoral performance was uneven throughout the period (European Commission, 2024). Construction, information technology, and agriculture remained among the strongest contributors to growth, while trade and professional services experienced weaker performance. Energy-intensive industries, including metallurgy, chemicals, and construction materials, were particularly affected by rising energy costs. Several industrial facilities reduced production or temporarily suspended operations due to deteriorating profitability.

The labour market remained relatively resilient despite the economic slowdown. Unemployment fluctuated within a relatively narrow range between 2022 and 2024, supported in part by government support measures and persistent labour shortages in certain sectors. However, labour market conditions weakened during 2025 as economic growth slowed further. The unemployment rate increased from approximately 5.5% at the beginning of the year to 6.3% by December 2025, reflecting the effects of weaker economic activity and the emergence of technical recession (INS, 2026d).

The relative stability of employment during most of the crisis period suggests that firms initially absorbed a significant portion of the shock through lower profitability rather than large-scale workforce reductions. Nevertheless, the deterioration observed in 2025 indicates that prolonged economic pressures eventually affected labour demand.

4.2 Fiscal Impact: Budget Deficit and Public Debt

The energy crisis generated substantial pressures on Romania's public finances. Government intervention aimed at protecting households and firms from rising energy costs required significant fiscal resources, while slower economic growth constrained revenue collection. As a result, fiscal consolidation efforts were interrupted and budgetary imbalances widened considerably (Ministry of Finance, 2025a).

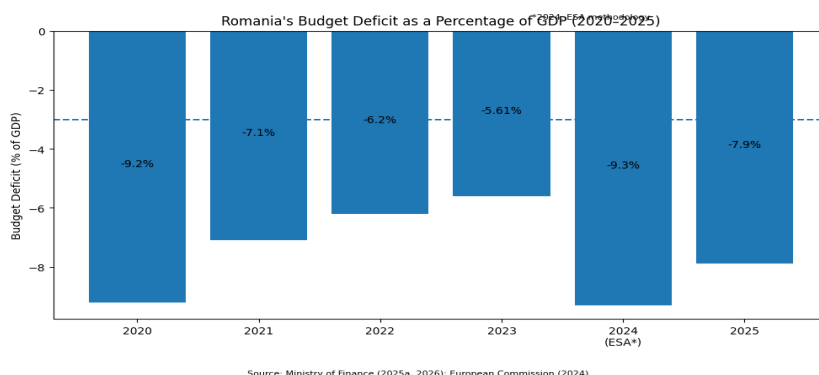
Romania recorded a budget deficit of 6.2% of GDP in 2022 and 5.61% in 2023. Although a modest improvement was observed during 2023, fiscal

performance deteriorated sharply in 2024, when the deficit reached 9.3% of GDP, the highest level recorded in the European Union during that year (European Commission, 2024; Ministry of Finance, 2026). The deficit declined to 7.9% of GDP in 2025 following the implementation of fiscal adjustment measures, but it remained substantially above the Maastricht reference value of 3%.

The deterioration of public finances reflected both cyclical and structural factors. On the expenditure side, the government financed extensive energy support programmes, including price caps and compensation schemes for households and businesses (IMF, 2023a). At the same time, slower economic growth limited the expansion of tax revenues. The combined effect of these developments significantly increased borrowing requirements.

Public debt followed a similar trajectory. Government debt increased from 47.3% of GDP in 2022 to 48.9% in 2023, reaching 54.8% in 2024 and 59.6% in 2025.

Figure 4. Public Deficit in Romania as a Percentage of GDP (2020–2025)



Sources: Ministry of Finance (2025b); Eurostat (2023a, 2025).

Figure 4 illustrates the persistence of large fiscal imbalances during the crisis period. By 2025, Romania's public debt approached the Maastricht threshold of 60% of GDP. The increase in debt was further amplified by higher interest rates, which raised the cost of government borrowing and increased debt-servicing expenditures.

According to Eurostat data, Romania recorded one of the fastest increases in the debt-to-GDP ratio within the European Union during the later stages of the crisis (Eurostat, 2025). This trend highlights the fiscal trade-offs associated with large-scale energy support measures. While such interventions contributed to social stability and reduced short-term inflationary pressures, they also generated long-term fiscal costs that will require continued consolidation efforts in the coming years.

Overall, the macroeconomic consequences of the energy crisis extended far beyond energy markets. The combination of slower growth, weakening labour market conditions, persistent fiscal deficits, and rising public debt illustrates the broad and lasting impact of the shock on Romania’s economic performance.

5. Policy Response and Structural Adjustments

The Romanian government's primary response to the energy crisis consisted of a comprehensive price-capping and compensation scheme for electricity and natural gas consumers (ANRE, 2025). Introduced in March 2022 and subsequently amended several times, the programme aimed to shield households and businesses from the unprecedented increase in energy prices while limiting the transmission of energy costs to the broader economy.

According to estimates published by the National Bank of Romania, the support scheme reduced inflation by approximately six percentage points during the first phase of the crisis (BNR, 2022). Without government intervention, inflationary pressures would have been significantly stronger, resulting in a more pronounced decline in household purchasing power and business activity. Consequently, Romania maintained some of the lowest regulated household energy prices within the European Union during the peak of the crisis.

Table 1. Evolution of Romania’s Energy Support Scheme (2022–2026)

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Legislative Act	Period	Beneficiaries	Capped Price
GEO 27/2022	Mar 2022 - Dec 2022	Households and SMEs	Electricity: ≤ RON 1,300/MWh Natural Gas: RON 0.31/kWh
GEO 119/2022	Jan. 2023 - Mar 2025	Household consumers	Electricity: RON 0.68-0.80/kWh Natural Gas: RON 0.31/kWh
GEO 6/2025	Apr.-Jun. 2025 (Electricity) Apr. 2025-Mar. 2026 (Natural Gas)	Household consumers	Electricity: RON 0.68-0.80/kWh Natural Gas: RON 0.31/kWh
Liberalised Market / GEO 12/2026	From Jul. 1, 2025 (Electricity) From Apr. 1, 2026 (Natural Gas)	All consumers	Electricity: RON 1.04-2.28/kWh (market prices)

Sources: ANRE (2025); National Bank of Romania (2022); European Commission (2024); Government Emergency Ordinance No. 6/2025.

Despite its effectiveness in mitigating the immediate social consequences of the crisis, the programme generated substantial fiscal costs. The cumulative budgetary burden of energy support measures exceeded EUR 6 billion between 2022 and 2024 (Ministry of Finance, 2025a). While these expenditures contributed to social stability and reduced short-term inflationary pressures, they also increased borrowing requirements and delayed fiscal consolidation efforts.

International Monetary Fund analyses classify such interventions as unconventional fiscal policies (IMF, 2023a). Although these measures can reduce inflation temporarily by limiting the direct transmission of energy prices, their long-term effectiveness is more limited because they do not eliminate the underlying causes of inflation. Instead, they primarily redistribute inflationary pressures over time while generating additional fiscal costs.

A major turning point occurred in July 2025, when Romania liberalised the household electricity market after approximately three years of administrative price controls (EPG, 2025). The liberalisation process was implemented in line with European Commission recommendations and commitments undertaken through the National Recovery and Resilience Plan. Following liberalisation, electricity prices increased substantially, contributing to a renewed acceleration of inflation during the second half of 2025.

Beyond short-term crisis management, the energy shock accelerated several structural transformations within Romania's energy sector. One of the most significant developments was the complete elimination of Russian natural gas imports by 2023 (IEA, 2023). Romania diversified its energy supply sources and strengthened regional energy cooperation, reducing vulnerability to future geopolitical disruptions.

The crisis also accelerated investment in renewable energy and domestic production capacity. The expansion of prosumer installations and renewable electricity generation reflected a broader shift toward energy diversification and sustainability. At the strategic level, the Neptun Deep project in the Black Sea emerged as one of Romania's most important long-term energy investments (Ministry of Energy, 2025). With estimated reserves exceeding 100 billion cubic metres of natural gas, the project is expected to begin production in 2027 and could position Romania among the largest natural gas producers in the European Union.

Overall, the crisis acted simultaneously as a major economic shock and as a catalyst for structural transformation. Although the short-term costs were substantial, the adjustments triggered by the crisis may strengthen Romania's long-term energy security and economic resilience.

Conclusions

The energy crisis of 2022–2025 represented one of the most significant economic challenges faced by Romania in recent decades. Triggered by the disruption of European energy markets following the Russian invasion of Ukraine, the crisis generated substantial inflationary, fiscal, and macroeconomic pressures that affected households, businesses, and public institutions alike.

The findings of this study indicate that energy prices were a major driver of inflation during the period under review. Annual inflation reached 13.8% in 2022, the highest level recorded in more than twenty years, before gradually

declining during 2023 and 2024. However, inflation remained above the National Bank of Romania's target throughout the period and accelerated again following the liberalisation of electricity prices in 2025.

The crisis also affected household welfare through a significant decline in real purchasing power. Although nominal wages increased considerably, inflation eroded a large share of these gains, reducing the real value of household incomes and limiting consumption growth.

From a macroeconomic perspective, Romania maintained positive economic growth throughout most of the crisis period, demonstrating a degree of resilience relative to many European economies. Nevertheless, GDP growth decelerated steadily from 4.1% in 2022 to 0.7% in 2025, while technical recession emerged during the second half of 2025. Labour market conditions remained relatively stable until the later stages of the crisis, when unemployment began to increase.

The fiscal consequences were equally significant. Large-scale energy support programmes contributed to persistent budget deficits and a rapid increase in public debt. Although these measures successfully mitigated the social impact of the crisis, they also generated long-term fiscal challenges that will require sustained consolidation efforts in the coming years.

At the same time, the crisis accelerated important structural adjustments. The elimination of dependence on Russian natural gas, increased investment in renewable energy, and the development of strategic projects such as Neptun Deep have strengthened Romania's prospects for long-term energy security and diversification.

The evidence analysed in this study suggests that the Romanian economy demonstrated considerable resilience during the energy crisis, maintaining positive GDP growth despite unprecedented inflationary pressures and severe disruptions in European energy markets. However, this resilience came at a significant fiscal cost, reflected in persistent budget deficits and a rapid increase in public debt. While the gradual normalisation of energy markets has reduced some of the immediate risks associated with the crisis, important challenges remain, including fiscal consolidation, inflation control, and the restoration of sustainable economic growth. In this context, strategic investments in domestic energy production and renewable energy capacity will play a crucial role in strengthening Romania's long-term energy security and macroeconomic stability.

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