

# The impact of rising electricity and gas prices on the Romanian households budgets

## Abstract

The current situation determined by the increase in the price of electricity and natural gas was felt in the consumption basket of the families of employees, unemployed, the beneficiaries of social assistance both domestically and internationally. Low-budget families have become vulnerable during the cold season to the surge in electricity and gas bills. The effects caused by these increases determined the Romanian authorities to take emergency legislative measures, by compensating in the period November 2021 - March 2022, the households that are unable to pay their utility bills and that deepened in this context, their state of energy poverty.

**Keywords:** household, income, consumption basket, fuel, electricity, price

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## Introduction

The fuel and electricity market has undergone many changes, which have been reflected among consumers. The current situation on the natural gas and electricity market has significantly increased fuel prices not only on the Romanian market, but also on the international one. Supply prices to customers are strongly influenced by the price of natural gas and energy traded in the markets. Thus, energy prices for household consumers in the EU increased in 2019 by 1.3% for electricity and 1.7% for natural gas, but the largest increases in electricity prices in the national currency were recorded in the Netherlands (19.6%), Lithuania (14.3%), the Czech Republic (11%) and Romania (10.1%), in the period between the second half of 2018 and the second half of 2019, show Eurostat data ([capitalul.ro](http://capitalul.ro)). In contrast, price decreases were recorded in 10 Member States, the most significant being in Denmark (minus 6.3%), followed by Greece (minus 5.8%), Portugal (minus 4.9%) and Bulgaria (minus 4.7%).

In the second half of 2019, in the European Union, electricity prices for household consumers ranged from 10 euros / 100 kWh in Bulgaria to about 30 euros / 100 kWh in Denmark, Belgium and Germany. In Romania, the average price of electricity was 14.2 euros / 100 kWh, below the average of 21.6 euros / 100 kWh in the EU 27. In addition to Bulgaria, lower prices than in Romania were recorded only in Hungary, Lithuania, Malta, Poland and Estonia.

As for natural gas prices for household consumers in the national currency, they have risen in 11 Member States. The largest price increases, in the period between the second half of 2018 and the second half of 2019, were recorded in Spain (16.7%), Croatia (12.9%), the Netherlands (12.1 %) and France (10%). On the other hand, the most significant price decreases were in Latvia (minus 22%), Denmark (minus 15.5%), Greece (minus 10.2%), Belgium (minus 8.3%) and Romania (minus 4.2%).

Among EU member states, gas prices for household consumers in the second half of 2019 ranged from 3.3 euros / 100 kWh in Romania and Hungary to almost 12 euros / 100 kWh in Sweden. The average price in the EU-27 was 7.2 euros / 100 kWh. Eurostat data also show that taxes and excise duties in the EU accounted for 41% of the price of electricity paid by consumers and 31% of the price of natural gas. The countries with the lowest share of taxes and excise duties in the price of natural gas were, in 2019, Greece (8%) and Luxembourg (10%). In Romania, the share of taxes and excise duties in the price of natural gas was 16%.<sup>1</sup>

Given the situation caused by the increase in prices on the international electricity and gas markets, as well as the effects caused by these increases for the Romanian population, it was necessary to regulate a compensation mechanism for the period November 2021-March 2022 so that prices at electricity and natural gas paid for by the household consumer should not aggravate the level of energy poverty. Maintaining a decent standard of living of the population has also been greatly affected by the costs of housing utilities, by increasing electricity and gas bills.<sup>1</sup>

State intervention - by applying Law no. 226/2021 on the establishment of social protection measures for vulnerable energy consumers - adequately minimized the negative impact of these increases, taking into account the fact that social protection measures were granted only for a part of the population, approximately 10% of households. According to Eurostat data, the risk of poverty and social exclusion in Romania in 2020 affected 30.4% of the population.

In order to support the population, in order to mitigate the financial impact on the population due to the increase in additional costs for electricity and natural gas in the cold season 2021-2022, it was proposed to adopt a compensation scheme for household consumers who meet certain consumption criteria.<sup>2</sup>

The optimal distribution of economic resources aims to improve the quality of life of individuals, groups, communities and the desire to bring these levels of consumption closer. Most often this consumption is influenced by changes in prices in the purchase of goods and services needed for household consumption. We want to consider such a situation in the following.

Comparing the budgets of different categories of population, we find how they work according to a certain hierarchy of needs, from the most basic to the least necessary.

## We start from the following working hypotheses for the family of employees

1. Decent minimum expenses of a family of four - two adults with two dependent children - remain unchanged in the following expenditure chapters: food, clothing / footwear, health, transportation, education and miscellaneous;
2. Only the chapter on housing is amended, as a result of the increase in the price of natural gas by 51.57% and electricity by 15%.

3. The minimum decent monthly basket of a household of two adults and two dependent children is affected by the increase in the price of natural gas and electricity by 66.57%, consumed in the household.

In the table below we will see what impact this increase has on the monthly household expenses mentioned above, in the cold season, November 2021 (Table 1).

**Table 1** The minimum decent monthly consumption basket of the family of two employees with two dependent children, from the urban area, calculated at the level of November 2021

1. Food and drinks	1,187 lei
2. Clothing and footwear	262 lei
3. Housing (gas, water, electricity)	524 lei
Price increase in November at:	
- natural gas with 51.57%	270 lei
- electricity with 15%	79 lei
The amount becomes from 524:	873 lei
4. Health (first aid kit)	262 lei
5. Transport	174 lei
6. Education	349 lei
7. Miscellaneous	87 lei
8. TOTAL decent minimum basket in November 2021	2,845 lei
The decent minimum basket required after the increase prices of the natural gas and electricity	3,194 lei.

On the other hand, if we take into account the level of November 2021: the average net salary of 3,645 lei (NIS site); the minimum

**Table 2** How to cover the basket of decent minimum expenses for a family of four, of which two dependent children, at the level of November 2021, in urban area, with the following income

Family budget of four from which:	Income in November 2021 (lei)	The decent minimum spending basket (lei)	How would the basket of decent minimum expenses be affected after the 66.57% increase in the price of gas and energy (lei)
two dependent children			
2 average salaries + 2 children allowances	7,718	2,845	3,194
Decent minimum basket coverage (income / expenses) (%)		271.3	241.6
2 minimum salaries + 2 children allowances	3,200	2,845	3,194
Decent minimum basket coverage (income / expenses) (%)		112.5	100.2
1 average salary + 1 minimum salary + 2 children allowances	5,459	2,845	3,194
Decent minimum basket coverage (income / expenses) (%)		191.9	170.9
1 average salary + 2 children allowances	4,073	2,845	3,194
Decent minimum basket coverage (income / expenses) (%)		143.2	127.5
1 minimum salary + 2 children allowances	1,814	2,845	3,194
Decent minimum basket coverage (income / expenses) (%)		63.8	56.8
1 GMI + 2 children allowances	683	2,845	3,194
Decent minimum basket coverage (income / expenses) (%)		24	21.4

net salary in the same month was 1,386 lei (website of the Ministry of Labor and Social Protection); guaranteed minimum income (GMI) (social assistance 2 people) in the amount of 255 lei (website of the Ministry of Labor and Social Protection); the allowance of a child of 214 lei (website of the Ministry of Labor and Social Protection); allowances of two children of 428 lei (website Ministry of Labor and Social Protection) we will see how to cover the basket of decent minimum expenses for a family of four, of which two dependent children, at the level of November 2021, in urban area, with the following income (Table 2).

At the level of November 2021, the minimum decent basket of the family of two adults with two dependent children, from the urban environment, was affected by the increase of prices for natural gas and electricity.

The most affected were families whose income consisted of a minimum wage and the allowances of two children, as well as those with a guaranteed minimum income and child allowances. The income from a minimum wage and two child allowances covered only 64% of the decent minimum basket, and if we take into account the increase in household expenses by increasing electricity and gas bills, this income could cover only 57% of basket (at a 66.57% increase in gas and energy prices).

In the case of families receiving a guaranteed minimum income (social assistance for 2 people) and the allowances of the two children, only a quarter (24%) of the expenses of the decent minimum basket corresponding to November 2021 could be covered. housing (natural gas, electricity) to the family budget, the greater the gap created between income and expenditure. This gap reaches only 21% of the minimum decent basket in that month.

## We start from the following working hypotheses for the retirement family

1. Decent minimum expenses of a family of two retirees remain unchanged under the following expenditure chapters: food, clothing / footwear, health, transport, cultural services, personal hygiene and miscellaneous;
2. Only the chapter on housing is amended, as a result of the increase in the price of natural gas by 51.57% and electricity by 15%.
3. The minimum decent monthly basket of a household of two pensioners is affected by the increase in the price of natural gas and electricity by 66.57%, consumed in the household.

In the table below we will see what impact this increase has on the monthly expenditures of families of retirees in urban areas (Table 3).

**Table 3** The minimum decent basket of the family of two retirees, from the urban area, calculated at the level of November 2021

Current number	Expenditure group	Decent urban area
1	Food and drinks	751
2	Clothing and footwear	74
3	Housing equipment	70
4	Transport	140
5	Cultural services	35
6	Personal hygiene	29
7	Repair and maintenance services of clothing and footwear	29
8	Housing expenses	344
	-increase in natural gas bill by 51.57%	177
	-increasing the electricity bill by 15%	52
	Total housing expenses	573
9	Medication expenses	119
10	Security fund	162
Total consumption (1a + 1b + 2 ... + 10)		1 753
- with an increase of 66.57% in the gas and electricity bill		1 982

If we also take into account the level of November 2021: the average net state social insurance pension in the second quarter of 2021<sup>1</sup> of 1,601 lei and the minimum social pension of 1,012 lei (website of the Ministry of Labor and Social Protection) we will see how the basket is covered of decent minimum expenses for a family of two retirees, at the level of November 2021, in the urban area, with the following incomes (Table 4):

In November 2021, the expenses of families of urban retirees related to housing were affected. Retirees who received only a minimum social pension in the household could cover 58% of the

<sup>1</sup><https://www.bing.com/h?q=pensia+medie+net%C4%83+de+asigur%C4%83ri+sociale+de+stat+%C3%AEn+al+doilea+trimestru+al+anului+2021&cvid=ee9ca77c3a3847bc81377735ad8fb4d2-&aqs=edge..69i57.1391j0j4&FORM=ANAB01&PC=U531>

minimum consumption basket, and if we talk about an increase in bills for electricity, natural gas, such an increase leads to cover only a little over half from the basket (51.1%).

**Table 4** How the basket is covered of decent minimum expenses for a family of two retirees, at the level of November 2021, in the urban area, with the following incomes

Family budget of two retirees	Income in November 2021 (lei)	The decent minimum spending basket (lei)	How would the basket of decent minimum expenses be affected after the 66.57% increase in the price of gas and energy (lei)
average net pensions of state social insurance	3,202	1,753	1,982
Decent minimum basket coverage (income / expenses) (%)		182.7	161.6
average net pension of state social insurance	1,601	1,753	1,982
Decent minimum basket coverage (income / expenses) (%)		91.3	80.8
average net state social insurance pension and 1 minimum social pension	2,613	1,753	1,982
Decent minimum basket coverage (income / expenses) (%)		149.1	131.8
minimum social pensions	2,024	1,753	1,982
Decent minimum basket coverage (income / expenses) (%)		115.5	102.1
minimum social pension	1,012	1,753	1,982
Decent minimum basket coverage (income / expenses) (%)		57.7	51.1

## Conclusion

It can be said that the families of employees with two dependent children receiving an income consisting of a minimum wage and two child allowances or those receiving a guaranteed minimum income plus child allowances are vulnerable to this increase prices in electricity and gas.

For the families of pensioners, at the level of November 2021, only the families affected, which had a minimum social pension, were affected. In the case of two minimum social pensions, the family is at the level of a decent minimum consumption.

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## Conflicts of interest

There are no conflicting interests declared by the authors.

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## References

1. Champions in raising the price of electricity. 2020.
2. Emergency Ordinance no. 118 of October 4, 2021 regarding the establishment of a compensation scheme for the consumption of electricity and natural gas for the cold season 2021-2022, published by the Government of Romania, in the OFFICIAL GAZETTE no. 2021.