



The Impact of the Economic, Energy Crisis and the Geopolitical Context on the Price of Construction

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Abstract: *Humanity is facing a series of overlapping crises: the health crisis, the energy crisis, the economic crisis and the crisis caused by Russia's aggression against Ukraine. After the era of globalization, the slowdown of international trade and the change of economic flows, the Romanian economy could be revived through foreign investments relocated to Romania and Romanian investments. The construction sector is strongly influenced by these phenomena. In this context, malfunctions also appeared in the construction infrastructure chains. It is found that it is necessary to adapt to autonomy in the supply of raw materials, the development, modernization and technology of our capacities as a response mechanism. In this acceptance, through this paper, the authors intend to design the impact of the actual crises (energetic and economic) in the construction field and the prices.*

1. INTRODUCTION

Currently, there is a migration of the young population towards the poles of economic development: the demand for living spaces is increasing, although there are price increases in the real estate sector, against the background of the increase in the price of construction materials, labor and bank rates. In some areas, the real estate market shows signs of slowing down, the determining factors are inflation and overlapping crises in the years 2021-2022. The construction sector and sales prices reflect the European and national context: less is bought and more expensive to build ([Materials Exchange, 2023](#)). The current economic crisis has affected the entire economy, globally, leading to its internationalization. The ecological crisis and the acute need to protect the environment also led to the exacerbation of the economic crisis. Economic growth worldwide was affected; the ability to foresee, to anticipate the evolution of economies in general was affected. Globalization, a factor with an impact on national economies, proved to be a “disturbing” element in the current economic crisis when the world balance was disturbed. Bad debts were incurred on the real estate market, debts that can no longer be paid to the banks. The price increases for construction materials, which are on average 60-80%, are generated by the crisis of raw materials, minerals, crude oil, and electricity ([DailyBusiness.ro, 2022](#)). In Romania, the construction sector was a performing one. The dynamics of profit are decreasing. Labor costs have increased in addition to the increased costs of construction materials. Constructions for infrastructure, and public works, as well as those related to energy transition are important and represent strategic sectors of the state. They will have a positive impact on post-crisis development.

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2. CONSTRUCTION MATERIALS INDUSTRY – THE MAIN COMPONENT OF THE FIELD OF CONSTRUCTION AND SUSTAINABLE DEVELOPMENT OF ITS

The price of construction materials has increased significantly in recent years. Sustainable adaptation, using innovative and non-polluting solutions, would lead to the execution of construction works in which the price of materials, labor, and the quality of the projects, would be in balance.

It is very important to reduce production costs without affecting services or products; this is difficult to achieve, taking into account the current geopolitical context.

The building materials industry, as the main component of the construction field, must respond to the requirements of sustainable development, with effective solutions that pollute as little as possible. The correct management applied in development strategies is what increases the productivity of resources in the circular economy, where the gradual reduction of waste, recycling, and reuse - where possible - will be approaches of the future.

The sanitary crisis, the energy crisis and the war between Ukraine and Russia led to a rapid increase in the price of construction materials.

According to the Report made by the [National Strategy and Forecast Commission \(2023\)](#) for the year 2023, it is estimated that the price evolution of construction materials will be +8.4% compared to the previous year, 2022.

The growth reported in the first months of 2023 is different from the estimated one. According to the [National Strategy and Reform Commission \(2023\)](#), the estimated weight of constructions in the structure of the gross domestic product - in May 2023 - is 6.7%.

In Romania, growth is also determined by the demand for new buildings, efficient from an ecological and energetic point of view. Infrastructure and industrialization projects determine a greater demand for construction materials. New, efficient technologies are used on the construction site, with a superior quality of the built works, prefabricated products are becoming more and more used, being effective in terms of yield and quality of work.

Romania imports 70% of construction materials. For bitumen, for example, there is only one producer in the country (The Vega Refinery in Ploiesti). The Romanian government has approved a multi-year aid scheme for road construction material producers ([Laurentiu, 2023](#)). According to the data, the increases are considerable for asphalt 46%, crushed stone 22%; to other materials, such as copper conductors 46%, polystyrene EPS 80, 36%, ceramic blocks 15%. Increases are reported as of December 2022.

The three superimposed crises - sanitary, economic, and energetic, but also the war on the border, made it difficult to purchase raw materials and ready-made materials for construction.

The constant growth of the urban population forces cities to build new residential spaces; their demand is increasing even though the price of materials, labor, and, implicitly, construction is constantly increasing. According to the [World Bank \(2022\)](#), in Romania, the percentage of urban population was 34% in 1960 and 54.4% in 2014. From the provisional results of the 2022 Census, the urban population represents 56.2% ([National Institute of Statistics, 2022](#)).

According to Eurostat (2018), Romania ranks first at the overcrowding rate of 48.8%, while the European average is 16.6%; it is about the number of rooms in a house and how many people live in the respective housing unit.

According to the press release of the Council of Europe (2023) regarding the Regulation on construction products, it is specified that:

- we want a fairer competition in this field,
- a more ecological and circular European construction industry,
- common European standards for the free circulation of construction products and materials,
- the purchase of materials that comply with mandatory environmental requirements,
- incentives for the purchase of these ecological construction materials,
- supporting local communities considering that the construction sector represents 5.5% of the EU GDP, with approx. 25 million employees, workers, in general, in small and medium enterprises.

In the current European and world geopolitical context, it is necessary to reset some priorities, to mobilize development resources by identifying vulnerabilities and eliminating them. The benefits of sustainable development must be greater than its implementation costs.

3. THE NATIONAL SECTORAL DEVELOPMENT AS PRIORITY IN THE CONSTRUCTION FIELD

National sectoral development is a priority considering that the construction field represents 7% of Romania's GDP in 2022 - according to the National Institute of Statistics (2022).

Construction materials must be modernized according to European and world standards. According to Ciutina (2022), "construction materials have a major impact on the environment quantified by:

- altering the environment through mining or deforestation,
- the source, size, or method of restoring the raw material,
- the content of recyclable elements in the finished product,
- the production energy of the finished product,
- energy consumed during transport,
- the energy consumed to put the product into operation,
- the energy required at the end of the life cycle,
- the emissions resulting from the use of a unit of material,
- the impact of secondary products,
- the emissions resulting during use (toxic emissions)."

The transition to non-polluting, environmentally friendly construction materials will have an impact on prices, which will increase for these reasons as well.

An alternative for sustainable development in the field of construction is the use of wood (Dimmer, 2022). It has a minimal impact on the environment and presents benefits regarding:

- implementation performance,
- quick execution,
- durable over time,
- low weight regarding loading/m²,

- does not affect health,
- recycling,
- reuse,
- minimal impact on the environment.

According to EU statistics, buildings use 50% of resources, 40% of energy consumption and 25% of municipal waste. The use of wood where possible from a structural point of view is also beneficial from the perspective of sustainable development.

Pele (2023) shows that: “Conventional wisdom says that globalization will suffer as a result of the pandemic and Russia’s war in Ukraine. The measures of the White House to reorient production to more “friendly” states and to prevent China’s access to advanced technologies are seen as steps in the opposite direction of a robust global trading system. The big risk to the global trading system is a military confrontation between the US and China.”

Following the events that started in 2020 with the health crisis and which are still ongoing, as a result of geopolitical and economic factors, a shift from globalization to large regions is observed.

According to **Iacomi (2022)**, “We have lived with the phenomenon of globalization which means investing, acting, and living as if there would be borders. It was a phenomenon that lasted 40 years, but which we can say has ended.”

On a global, European and national level, the prices of construction materials have registered consistent increases, with record values in 2022 (**Chira, 2023**).

The major factors that influenced the price increase in construction are:

- the health crisis - COVID-19 superimposed on the energy crisis which resulted in the price increase of construction materials;
- inflation and transport prices;
- the war in Ukraine affecting supply chains;
- the earthquake in Turkey; Romania imports construction materials from this country;
- the increase in the price of labor and, implicitly, construction materials.

Because Romania imports more than 70% of construction materials, the prices on the international profile markets influence the domestic market. Where there is national production, the raw material is imported.

Steel rebars, for example, recorded a price increase that exceeded 60% in many other countries, not only in Romania - where its value doubled (table 1).

Table 1. Statistics regarding the increase in the prices of steel rebar at the international level, in 2021

Country	The price difference increase in 2021 compared to 2020 (%)
Spain	64
France	>70
Germany	>70
Italy	110

Source: **PlanRadar, 2023**

According to studies on the evolution of prices for construction materials in Romania, and studies of construction publications, the situation between April 2020 and April 2023 is presented as follows the Table 2.

Table 2. The price evolution of construction materials in Romania in the period between April 2020 and April 2023

Material	April 2020	April 2021	April 2022	April 2023
Cement	0,50 lei/kg	0,55 lei/kg	0,71 lei/kg	0,75 lei/kg
Smooth concrete steel	3,67 lei/kg	4,39 lei/kg	5,74 lei/kg	6,06 lei/kg
OSB boards	33,24 lei/buc.	38,18 lei/buc.	59,49 lei/buc.	45,72 lei/buc.
Expanded polystyrene	49,50 lei/bax	48,00 lei/bax	83,50 lei/bax	75,84 lei/bax
Brick	8,00 lei/buc.	8,33 lei/buc.	12,21 lei/buc.	13,02 lei/buc.

Source: Revista BURSA Construcțiilor, 2023

According to Vasiliu (2023) “In 2023, some construction materials started to become cheaper in order not to lose the market”. The calculations of the platform www.vindem.ieftin.ro show that metal sheet roofs have become cheaper by 20%, and OSB by 40%. The reductions refer to the year 2022 and they are found only in some companies, based on the principle of the free market.

Falling demand, distributors were forced to lower the price of some construction materials. That is why the forecast of specialists in this field remains reserved.

4. CONCLUSION

In the context of sustainable development, and respecting environmental protection, the requirements in the field of construction are changing radically.

Globally, efforts are being made to develop new technologies, reduce the use of classic raw materials, reduce energy in the production process, and reduce CO₂ emissions.

The high costs of construction materials lead to a decrease in demand. The ongoing projects were budgeted at certain prices which, in some cases, almost doubled.

On the international level, the specialists do not foresee decreases in the following time intervals.

The transition to green energy means the use of materials, such as steel, copper, and aluminum, materials that are also used in construction. An increased demand for these raw materials will result. The law of supply and demand on the market for these resources will keep prices high.

The construction sector as an economic activity has a significant impact on the environment. E.U. proposed ambitious objectives in protecting the environment in the field of construction materials and the construction of industrial housing objectives.

The 2030 Agenda for Sustainable Development implies the application of strategies to which Romania has also aligned by adopting the “National Strategy for Sustainable Development of Romania - 2030” (Government of Romania, 2018; UN General Assembly, 2015). Articles 9 and 11 of the 2030 Agenda give clear directives regarding infrastructure, sustainable industrialization, and the development of human settlements that are open to all, safe, resilient and sustainable.

The current geopolitical, economic and health context have proven that the development of loyal and regional industries represents an alternative to globalism in cases of force majeure.

In July 2023, the Government of Romania developed and approved the Emergency Ordinance regarding the National Program for the development of the eternal production of construction products and materials no. 68/2023 (2023). This aims to encourage and stimulate the national industry to reduce the effects of the economic crisis. It is proposed, among other things, regional development through the establishment of the “National Program for the development of domestic production of construction products and materials - CONSTRUCTPLUS.” The proposal is based on EU regulation no. 651/2014 ([Official Journal of the European Union, 2014](#)).

The program encourages the domestic production of construction materials and the reduction of imports, unblocking construction sites and ensuring the implementation of projects in the current market.

References

- Chira, A. (2023). What are the prices of the main construction materials? *Economica*. Retrieved July 12, 2023, from www.economica.net
- Ciutina, A. (2022). The impact of constructions on the environment - university course. UPT Timisoara.
- Council of Europe. (2023). Press release: Regulation on construction products. Retrieved July 12, 2023, from www.council.europa.eu
- DailyBusiness.ro. (2022, December 2). The effects of the crisis in construction: distributors reduced prices. Retrieved July 12, 2023, from www.dailybusiness.ro
- Dimmer. (2022). *The use of wood as a construction material in the context of sustainable development*, <https://www.mydimmerhome.com/2022/06/29/folosirea-lemnului-ca-material-de-constructii-in-contextul-dezvoltarii-sustenabile/>
- Eurostat. (2018). Statistics on housing in the EU. Retrieved July 12, 2023.
- Government of Romania. (2018). The national sustainable development strategy of Romania 2023, approved by H.G. no. 877 of 9 Nov. 2018.
- Government of Romania. (2023). O. G. no. 68/2023. The national program for the development of domestic production of construction products and materials.
- Iacomì, A. (2022). Globalization has ended; a regionalized world is forming. *Bursa Journal*.
- Laurentiu, G. (2023). Government course: State aid for the construction materials industry.
- Materials Exchange. (2023). Why did construction materials become more expensive in Romania?
- National Institute of Statistics. (2022). Productivity in construction 2022.
- National Institute of Statistics. (2022). Provisional results of the 2022 national census.
- National Strategy and Forecast Commission. (2023). Report for the year 2023.
- National Strategy and Reform Commission. (2023). Macroeconomic forecasts.
- Official Journal of the European Union. (2014). Regulations Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty.
- PlanRadar. (2023, May 5). *The price of construction materials in 2023 in Romania*. Retrieved July 12, 2023, from www.plan.radar.com
- Revista BURSA Construcțiilor. (2023). Retrieved July 12, 2023, from www.construciiibursa.ro
- UN General Assembly. (2015). Agenda 2030, September 2015.
- Vasiliu, A. E. (2023). Business Construct: The real crisis is on the construction materials market. *Financial Newspaper*.
- World Bank. (2022). Romania in numbers - Report. Information about the country.