

ANALYSIS OF THE SITUATION OF INVESTMENTS FOR ENVIRONMENTAL PROTECTION AND INFLUENCE ON SUSTAINABLE ECONOMIC DEVELOPMENT

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RESEARCH ARTICLE

Abstract

The article aims to explore investments for environmental protection, knowing that the synergy between economic and environmental evolution is a prerequisite for the sustainable development of the country.

Environmental protection is considered not only as a problem of humanity, but increasingly as an economic problem with implications not only for international economic relations, but also for environmental changes viewed on a global scale.

Sustainable economy implies development that ensures the needs of the present, without compromising the possibilities of future generations to satisfy their needs. Moreover, it shows the right to development that is exercised in such a way as to satisfy equitably, both development and environmental needs for present and future generations.

In order to implement the objectives of sustainable development, progress is required in all dimensions: ecological, economic, social-human, as well as technological.

Our research is based on statistical information collected from the website of the National Institute of Statistics. During the analyzed period, an increase in investments related to environmental protection was observed, but this favorable, positive evolution was not marked by expected ecological effects.

Keywords: investments, environmental protection, environment, producer categories.

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INTRODUCTION

Environmental protection is considered to be the only way for life to continue and thrive on the planet, especially since it provides the resources that ensure the survival and development of the human species. The environment also plays an essential role in maintaining human health and biodiversity. (Sîrbulescu et al., 2021)

Environmental protection is considered among the important pillars that influence the evolution, but also the sustainability of the environment. (Akdag et al., 2024)

In Niu's vision, an increase in government spending on environmental protection opens up possibilities for increasing ecological innovation. (Niu, 2024)

In order to ensure sustainable development, the vision in national strategy documents and action plans must be taken into account, as well as at the international level. Environmental spending must be carefully monitored, and efficiency must be assessed in terms of the same sustainable development. (Jarczok-Guzy et al., 2024)

The EU Green Deal identifies investment as a key lever for ensuring the implementation of European environmental and climate policies.

In 2024, €76 billion was invested in the EU in essential assets needed to provide environmental services (e.g. wastewater treatment plants, waste transport vehicles, cleaner equipment that produces fewer polluting emissions). (<https://ec.europa.eu>)

Between 2018 and 2024, EU-wide environmental investment increased by 37%. The 2020 COVID crisis reduced investment in the economy, and as a consequence, investment in environmental protection also decreased. Starting in 2021, investment started to increase, and environmental investment increased by 30% between 2020 and 2024.

Some environmental specialists have sought suitable methods for good sustainable management of natural resources that would also ensure environmental protection but also stimulate income creation. (Drăcea et al., 2020)

Environmental protection expenditures are appreciated as a measure of communities that must actively participate in solving environmental problems. (Sîrbulescu et al., 2023)

The author Broniewicz considers environmental protection expenditures an effort that must satisfy multiple aspects, including the prevention, reduction and even elimination of pollution resulting from the manufacture or consumption of goods and services. (Broniewicz, 2011)

The aim of the article was to present a complete picture of environmental investments in Romania and to understand the deep connection between investments in environmental protection and the development of effective strategies to fight climate change.

The main objective of the research is to analyze data on specific environmental protection investments, knowing that by solving problematic environmental aspects, through specific investments as part of environmental protection expenditures, those new jobs that are necessary and that can contribute to sustainable growth, but also to development.

MATERIAL AND METHOD

The article was supported by the use of research methods, from, documentation and consultation of specialized literature (articles, but also specialized works), data collection from statistical sources for the years 2012-2024, especially those obtained from the National Institute of Statistics (INS) and from the level of Press Releases regarding the studied aspects, data analysis and based on them, the information was interpreted that was compared, synthesized and supported the creation of graphs and subsequently the issuance of conclusions.

From the INS documents, environmental protection expenses include: investments, current internal expenses Investments refer to expenses for construction works, installations and assembly, for the purchase of means of transport, equipment, as well as expenses for the creation of new fixed assets necessary for the development, modernization, reconstruction of existing ones, with the aim of protecting the environment. The value of services regarding the transfer of ownership of existing fixed assets and land is also added.

Investments for environmental protection are structured by producer categories (non-specialized producers, specialized producers and public administration) and were analyzed in the period 2011-2023.

RESULTS AND DISCUSSION

Starting from the assets of Romanian society, representatives of the Government, Parliament, the business environment, and the academic environment have outlined the priority lines on which the development of the economy in the future must be based.

In this sense, it is necessary to understand that it is important that the financial measures dedicated to this environmental protection are also effective.

The analysis of data obtained from various sources constituted the central part of the article, and the authors expressed the trends of investments in environmental protection and their evolution, during the period 2011-2023. In this sense, the data for the determined periods were compared, highlighting the differences of these investments between the different categories of producers, also emphasizing the importance of efficiency and contribution to the sustainable development of the Romanian economy.

The data analysis also consisted in approaching environmental protection expenditures because their study refers to the level of investments and current expenditures financed at the level of non-specialized, specialized producers and implicitly by the public administration.

From the analysis of these expenditures in Romania, for environmental protection we would find a sinuous evolution, but also a maximum recorded in 2022, of 20.4 billion lei (1.2% of GDP) and 19.8 billion lei in 2023 (Figure 1 and Figure 2).

In 2011, the year of the beginning of the analysis, investments in environmental protection totaled approximately 5.4 billion lei. At the national level, environmental protection expenditures amounted to approximately 18.6 billion lei, contributing 3.2% to the Gross Domestic Product (Figure 1 and Figure 2).

Protection expenditures were approximately 3% of GDP in 2012. The public administration had a contribution of 5.3 billion lei to environmental protection expenditures in 2011, and investments recorded 2.5 billion lei. Public administration investments accounted for 46% of total investments in environmental protection in 2011. (<https://business24.ro>)

According to the INS, 2014 was marked by a reduction in environmental protection expenditures, namely the value of 12.6 billion lei and a contribution of 1.9% to GDP, compared

to the previous year, 2013 when the contribution was 2.4% to GDP. (<https://www.bursa.ro>)

From the data provided by the INS, the updated podium is the year 2024, with the amount of 28 billion lei, environmental protection expenditures equivalent to a share of 1.9% of GDP.

The period 2017-2023 (Figure 1 and Figure 2), is characterized by an upward trend in environmental protection expenditures. Investments in environmental protection recorded a maximum in 2015 of 6.7 billion lei, a slight decrease in 2020, the year of the Covid 19 pandemic, followed by growth in the following years.

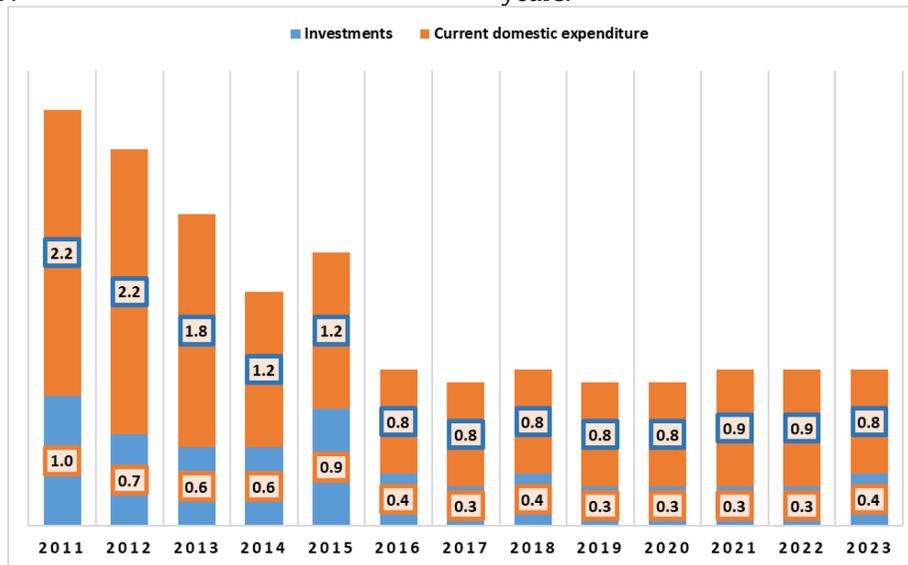


Figure 1. Evolution of the share of the contribution of current domestic expenditures and investments related to environmental protection in the Gross Domestic Product (%)

Sources: Romanian Statistical Yearbook, 2012-2024, www.insse.ro

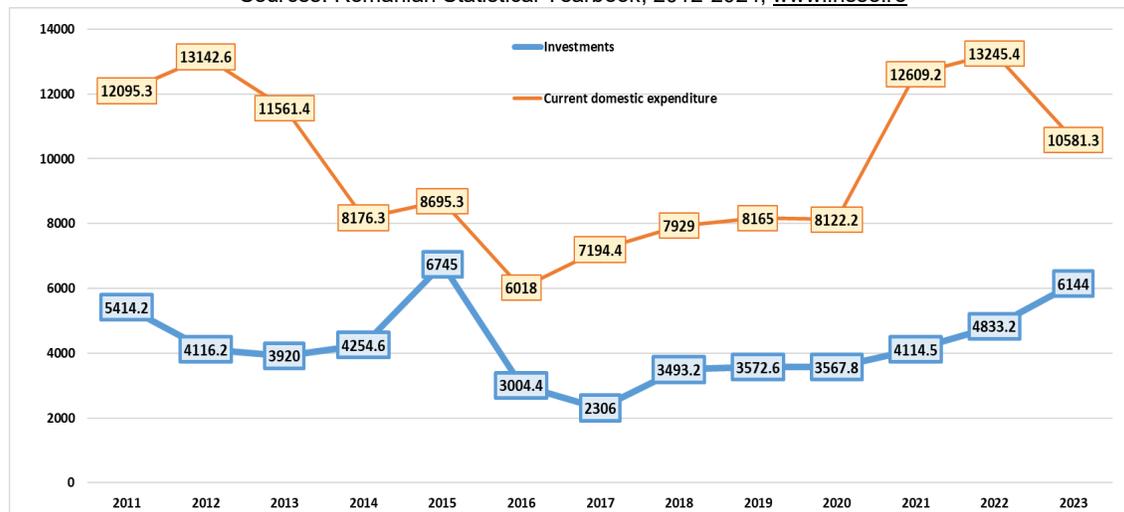


Figure 2. Evolution of current domestic investments and expenditures for environmental protection (millions of lei, current prices)

Sources: Romanian Statistical Yearbook, 2012-2024, www.insse.ro

The study of environmental protection investments also marked the identification of their volume in the three categories of producers (public administration, specialized and non-specialized), during the studied period, and the following findings were made:

- changes were highlighted in their distribution in the three categories of producers (Table 1 and Figure 3) [2]

- in 2014, the share of investments by non-specialized producers was 72.6%, in total investments for environmental protection, 18.6% public administration investments and 8.8% those of specialized producers;

- the year 2015 stands out with the highest volume of investments by non-

specialized producers and a share of 71% in total investments in environmental protection;

- high shares were recorded in investments by non-specialized producers, with a maximum of 73.0% of total investments for the environment in 2013.

- in the non-specialized producers category, the podium has been occupied since 2011 with 1491.5 million lei and a share of 28% of total investments regarding environmental protection in that year;

- in public administration, the largest environmental investments, in terms of volume, were also in 2011, 2522.1 million lei. As a share, investments made in total investments for environmental protection, the highest level of 54.6% and 54.5% were in 2019 and 2020.

In 2018, large investments for environmental protection were those registered in the field of wastewater management, carried out by public administration, and represented 78% of total investments in the field.

In 2019, at the national level, investments for environmental protection in the field of public administration wastewater management ranked first, accounting for 83.7% of total investments in this field of wastewater management. (<https://www.profit.ro>)

According to data provided by the INS, environmental protection expenditures, consisting of current expenditures and investments at the national level, amounted to 19.8 billion lei, in 2023, with a contribution of 1.2% to the Gross Domestic Product. (INS, www.economica)

According to official statistics, in Romania, a higher volume of environmental protection expenditures was recorded in the field of waste management in the category of specialized producers (70.3% of total expenditures in this field), and in terms of investments, in this segment, the largest amounts were recorded in the field of wastewater management in the category of non-specialized producers (53.1% of total investments in this field of wastewater management).

At the national level for 2023 (Table 1), environmental protection investments had a share of 31.1% of total environmental protection expenditures. Of the total, 41.9% were investments by non-specialized producers, in second place were investments by public administration, with a share of 40.4% and 17.7% in investments by specialized manufacturers.

In 2023, Eurostat provided information on the level of investments in environmental protection at the European Union level, which stood at 68 billion euros. Of the total amount, 60% (40 billion euros) were investments by corporations, both specialized and non-specialized suppliers. The difference of 40% was investments belonging to the public administration sector. (<https://ecsr.ro>)

As a share at the EU level, investments in environmental protection represented 1.8% of total investments. (<https://ecsr.ro>)

From the analysis of environmental protection investments (Figure 4) we noted that the 1st place goes to investments in the field of "Wastewater Management", with an average value of around 48.7% for the period 2011-2023.

The largest investments at the national level for environmental protection in 2023 were recorded in the field of "Wastewater Management", the non-specialized producers category, with a share of 53.1% of total investments in this field of wastewater management.

Also in 2022, the field of "Wastewater Management" occupied the top place, respectively 2.30 billion lei current prices and the second place was "Waste Management" with 1.6 billion lei current prices.

The INS provided data for 2024, regarding investments related to environmental protection, which stood at 26.3 percentage points of total expenditures at the level of Romania for environmental protection. By producer categories, first place went to public administration investments with a share of 50.3%, second place occupied by investments of non-specialized producers with 37.1 percentage points and 12.6% contributed by producers specialized.

In 2024, investments in environmental protection accounted for 26.3% of total expenditures made in Romania for environmental protection. (<https://greennews.ro>).

The analysis by environmental fields in 2024 outlined the following situation: first place in investments in environmental protection went to the field of "wastewater and water resources", 4.0 billion lei current prices, then the field of "waste, materials and material savings", with a value of 1.8 billion lei current prices.

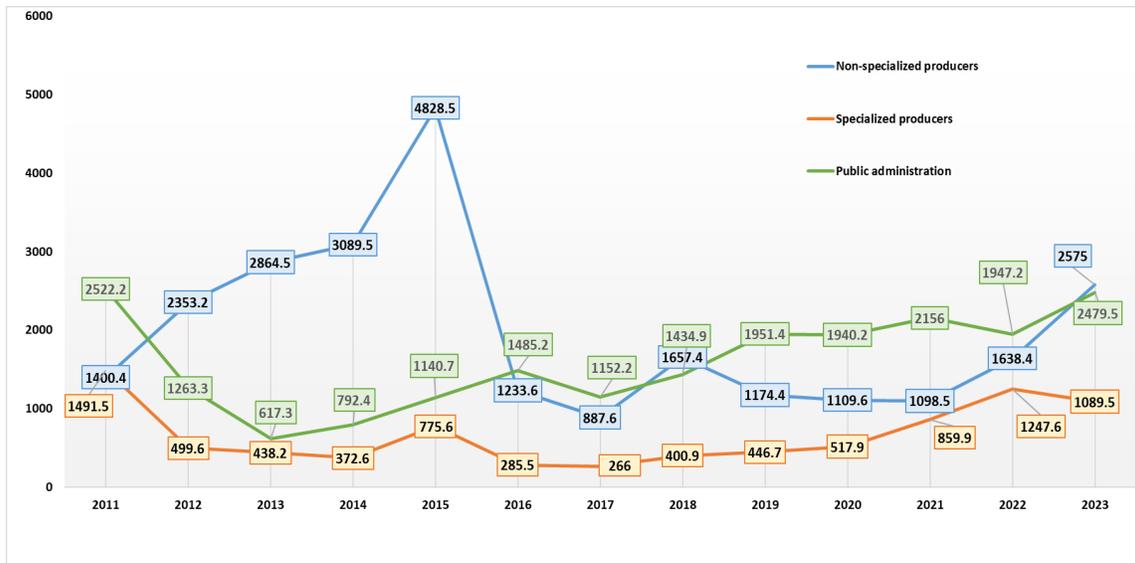


Figure 3. Evolution of investments for environmental protection by types of producers (millions of lei current prices)

Sources: Romanian Statistical Yearbook, 2012-2024, www.insse.ro

Table 1

Shares of investments in environmental protection by type of producer (%)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Non-specialized producers	26	57	73	72	71	41.1	38.5	47.4	32.9	31.1	26.7	33.9	41.9	37.1
Specialized producers	28	12	11	9	12	9.5	11.5	11.5	12.5	14.5	20.9	25.8	17.7	12.6
Public administration	46	31	16	19	17	49.4	50	41.1	54.6	54.5	52.4	40.3	40.4	50.3

Sources: Romanian Statistical Yearbook, 2012-2024, www.insse.ro

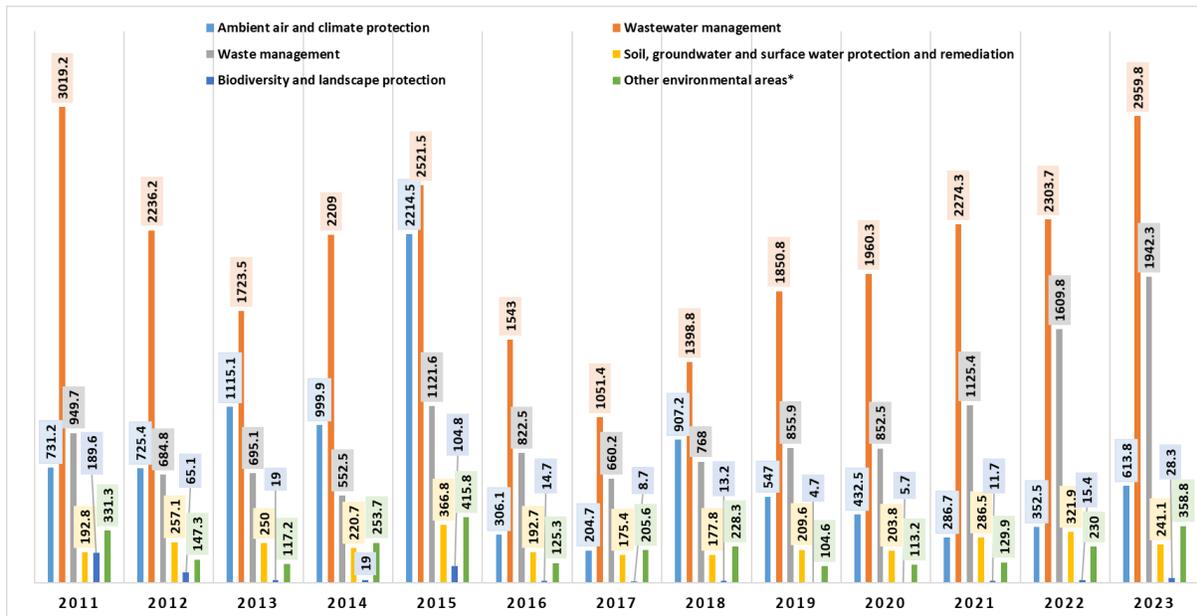


Figure 4. Evolution of investments in environmental protection, by environmental areas (millions of lei, current prices)

Sources: Romanian Statistical Yearbook, 2012-2024, www.insse.ro

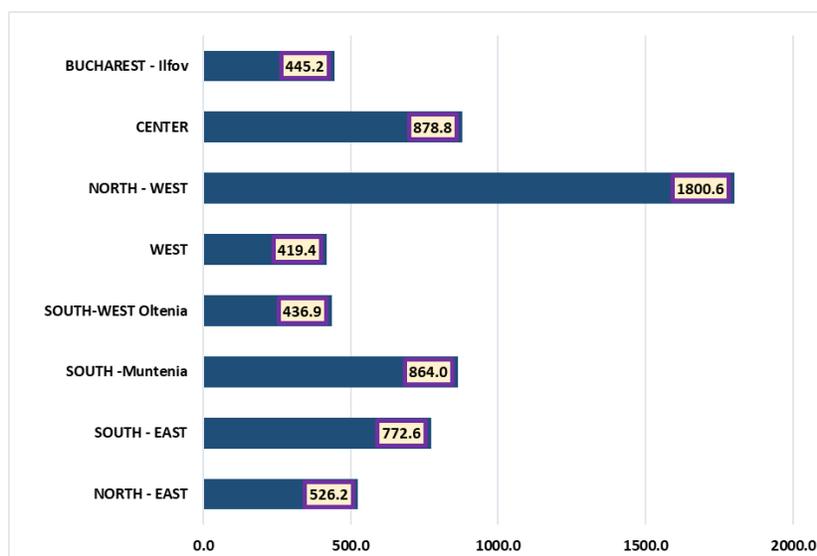


Figure 5. Investments for environmental protection by development regions, in 2023 (million lei current prices)
Sources: Romanian Statistical Yearbook, 2012-2024, www.insse.ro

The year 2023, by development regions (Figure 5), was marked by the highest investments made for environmental protection in the North-West region 1.8 billion lei current prices and a share of 29.3% of total investments, followed by the Center region 0.8 billion lei current prices and a share of 14.3% of total investments and by the South-Muntenia region with a share of 14.1%.

Environmental protection investments in the Bucharest-Ilfov region reached only 445.2 million lei current prices even though it faced systemic environmental problems and many challenges due to the transition to the green economy characteristic of the large cities of Europe.

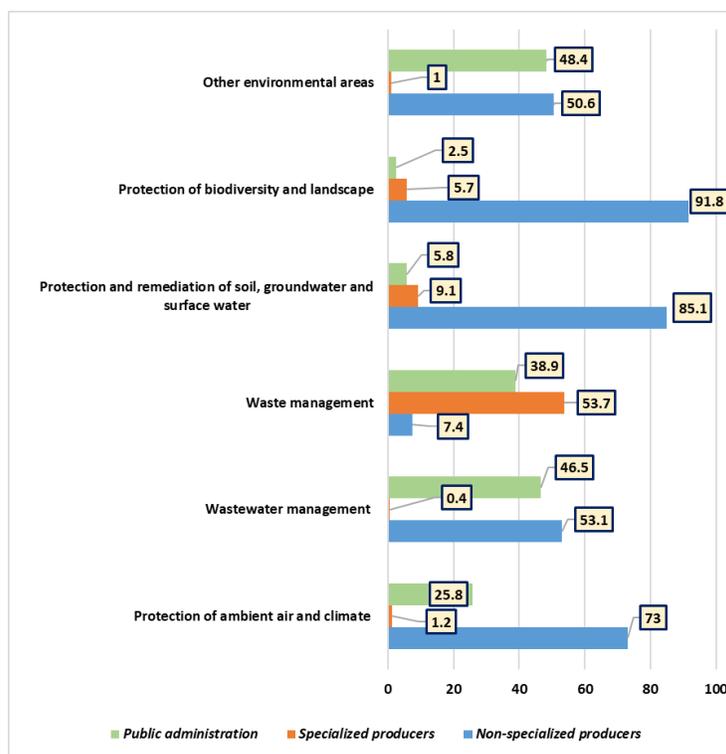


Figure 6. Investments for environmental protection by types of producers and environmental areas, in 2023 (%)
Sources: Romanian Statistical Yearbook, 2012-2024, www.insse.ro

From INS data, in 2023, depending on the categories of producers (Figure 6), the distribution of investments in the environmental areas "Wastewater management" was 46.6% investments by public administration and 53.1% non-specialized producers. Investments in the field of Waste management were 53.7% specialized producers and 38.9% public administration. In the field of Ambient air and climate protection, the largest investments went to non-specialized producers with a share of 73% and 25.8% to public administration.

In 2024, large investments for environmental protection were recorded in the field of wastewater and water resources in the public administration category, representing 66.9% of total investments in this field.

Investments have a positive influence on the environment and ensure a clean future for future generations.

CONCLUSIONS

In this article, we examined investments as part of environmental protection expenditures in Romania.

The analysis carried out reinforced the idea that in the case of investments for environmental protection, large amounts went to the field of "Wastewater Management" from non-specialized producers. In fact, in 2023 and 2024, large investments were in the same field, wastewater management.

Efforts must be focused, supported, towards environmental protection, by all parties involved, being considered a national priority, which shapes the standard of living of the entire population, which will influence the sustainable development of society in the future.

Sustainable development has a primary role especially if we relate to the importance of the environment, which means medium and long-term investments and the appropriate allocation of resources. The essential pillars of sustainable development are environmental protection, economic development and social inclusion.

Environmental protection is essential for society, and through the investments made, natural resources are protected to ensure a sustainable future.

The conclusion that follows from the analysis carried out is that continuous monitoring of the expenses and investments involved in environmental protection will

ensure more and more new jobs, facilitating growth and sustainable development, along with protecting natural resources for future generations.

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