SECTION 3. ECONOMY AND MANAGEMENT OF STATE GRATITUDE

3.1 International green growth content and institutional basis of decarbonization in Ukraine

In the face of global challenges, Ukraine needs to develop a clear strategy for the transition to green economic growth. This will determine the basic principles of public policy, strategic vectors and objectives of economic development in the direction of conservation and efficient use of resources, reducing the destructive production and anthropogenic impact on the environment and increasing the amount of "green" funding. Such an approach requires clarity in defining the priorities of environmental modernization, the essence of which is to update or create new institutions in the direction of finding innovative ways of environmentally friendly development, comprehensive institutional reforms and transfer of green technologies.

At the same time, the unconditional imperative of society should be the practical implementation of the model of sustainable development and green economy, which provides an integrated combination of economic efficiency, social justice, resource balance and environmental security. The responsibility of Ukraine, which has undertaken to fulfill international obligations to implement the principles of sustainable development, dissemination and implementation in the system of state and regional governance of areas and mechanisms that contribute to the requirements of the "green" economy, determines their practical implementation. The formation of an effective system of environmental management in the context of overcoming financial instability by carrying out institutional and structural changes in Ukraine is becoming a real necessity.

Defining and actively implementing the priorities of Ukraine's innovative development in a "green" format should contribute to strengthening the image of Ukraine as a country with an environmentally oriented policy at the global and European levels. Existing political initiatives at the international and national levels in support of the vector of "green" growth show that today in Ukraine there has been some dynamism in this direction.

Signing in 2014 of the Association Agreement between Ukraine and the European Union and adoption of the Action Plan for the implementation of the Association Agreement for 2014-2017 (in particular, Section V "Economic and sectoral cooperation"), as well as plans for the implementation of EU directives and regulations in the field of energy, ecology and technical regulation, has initiated the national trajectory of Ukraine's green transition in accordance with modern international challenges. It can be argued that the prosperity of the state can be ensured only by improving the efficiency of all types of resources, structural and technological and innovative restructuring of production in accordance with European requirements and international obligations [36]. According to Art. 365 of the Agreement the key goals of European integration are:

- development of a comprehensive environmental strategy, which will include planned institutional reforms;
- division of powers of environmental authorities at the national, regional and local levels;
- • decision-making procedures and promoting the integration of environmental policy into other areas of state policy;
- • identification of the necessary human and financial resources and the mechanism for their review.

In view of these postulates, after the proclamation of the UN Global Green Course in 2009 by UNEP [37], the EU countries are gradually developing and implementing a policy of "green" growth, which was caused by the need to green their economic systems. Analyzing the theoretical development of international institutions, we can state that the distinguishing features of the green economy are as follows [37, c. 4]:

- economic growth involves the introduction of a model of greening in all sectors of the economy on the principle of creating more value with less impact;
- the key role in the transition to the principles of "green economy" belongs to the state policy to stimulate the development of "green" activities and business, limiting subsidies to support "brown" production, introduction of stricter environmental

standards and responsibilities of producers and consumers, well-thought system of state regulation and control;

- the transfer of cleaner technologies stimulates new growth opportunities in the "green" areas, compensating for job losses in the "brown" sectors;
- investing in energy efficiency, renewable energy and waste management serves as an activator for the development of "green" entrepreneurship, innovation and employment growth by 20% by 2050 compared to the usual scenario in society.

An excursus of international documents shows that today, the EU has a number of advanced innovation programs aimed at ensuring the greening of the EU economy. These include the Roadmap for moving to a competitive low carbon economy in 2050 (COM (2011) 112), a policy framework for climate and energy in the period from 2020 to 2030, the Energy roadmap 2050, the Roadmap to a Resource Efficient Europe (COM (2011) 571), the Environmental Technologies Action Plan (ETAP), Competitiveness and Innovation Framework Programme (CIP), Research and technology development framework programs, innovation and regional development programs, etc.

Ukraine's long-term strategy for EU integration means gradual approximation to the relevant standards of environmental legislation and ensuring the effectiveness of mechanisms for their implementation under the "green" scenario, as the EU accession process is the main driver of modernization of environmental standards and legislation. In addition, Ukraine's membership in the Council of Europe is an important factor in the country's integration into the single European legal space by bringing national legislation in line with the organization's norms. The effectiveness of such efforts depends on the pace of environmental reforms taking place in the country today.

As the priority in modern international cooperation is the issues of sustainable development, environmental protection and combating climate change, in the context of globalization, Ukraine must implement its development strategy with European guidelines. In addition, with the launch of the Global Green Course [37], Ukraine had a chance to become a leader in promoting the ideology of a "green" economy among the Eastern Partnership countries [39, c. 7].

The "Greening Economies in the European Union's Eastern Neighbourhood" (EaP GREEN) programme was aimed at this, supported by the European Commission and other donors and implemented with the joint participation of four international organizations (OECD, UNECE, UNEP, UNIDO) [36]. The purpose of the Program was to support the transition of the Eastern Partnership countries (Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine) to the model of "green" economy by:

- integration of the sustainable consumption and production (SCP) model into national development plans, legislation and regulations;
- introduction of "green" economy tools (strategic environmental assessment (SEA) and environmental impact assessment) as important mechanisms of spatial planning based on the principles of ecological sustainability;
- transition to a "green" model of development in the sectoral context.

Unfortunately, these optimistic forecasts did not come true, as Ukraine still lacks a legally declared Concept of State Policy for the Development of a Green Economy. This content is evidenced by the developed in 2013. The Ministry of Economic Development and Trade of Ukraine drafts the Action Plan of Ukraine to implement the decisions and recommendations of the UN Conference on Sustainable Development "Rio + 20", where a separate issue is the development of the Concept of State Policy for Green Economy, which unfortunately remained a project document.

At the same time, in recent years, there has been an increase in political activity on the implementation of the European model of green growth and its key instruments. This content was the key to the discussion of joint agreements on green financing, in accordance with international standards of decarbonisation policy until 2030, in the high-level dialogue between Ukraine and the European Union, which took place in late September 2021. Thus, taking into account the trends of the current stage of development, now in Ukraine at the expert level there is a clarification of scenarios and targets of program documents of the country's development. The implementation of the provisions of the Association Agreement in Ukraine, in particular its Chapter 6 (Environment), creates the preconditions for the formation of the Single Pan-European Energy and Climate Area, which will cover Ukraine and other Member States of the Energy

Community. In this regard, Ukraine, when formulating national Action Plans, should focus more clearly on the mechanisms and strategies developed by the world community to decarbonize the economy on the basis of the European ideology of "green" growth.

In our opinion, this implies the expediency of adopting relevant legislative drafts on:

- implementation of the international procedure "exchange of debts for nature (environmental assets)" in offsetting the external debts of Ukraine;
- conducting a number of important scientific studies, expert and analytical assessments in the above format;
- establishment of continuous professional training in order to increase the level of awareness and qualification of specialists among representatives of state bodies, local self-government, territorial communities, business, managers;
- set-up a platform for effective dialogue, interaction and strengthening partnerships between government, business and civil society to achieve effective environmental governance and implement the transfer of green innovation and investment in Ukraine.

The international format of the green economy should provide a favorable political climate based on:

- greening of management decisions in the direction of promoting sustainable development through the introduction of innovations and investments;
- providing institutional preconditions for the formation of green growth in the field of environment;
- providing adequate financial resources to developing countries, solving the international debt problem through the mechanism of exchange of external debts for the implementation of environmental measures [42];
- greening of macroeconomic policies that would contribute to environmental protection and improved resource management.

This necessitates the consideration of the ideology of development of the "green" economy as the main paradigm of transformation of social changes, especially in the

process of forming an integral national system of environmental management [38]. The need for such a system is confirmed by the state of ecosystem potential of Ukraine, which is characterized as depleted due to excessive use and consumer attitudes, which pose a real threat to the health of the nation. However, it can be stated that currently the theory and practice of green growth, which is very widely promoted at the international and European levels, unfortunately, is still not fully recognized in Ukraine. Meanwhile, this situation is somewhat contrary to the terms of Art. 360, ch. 6 "Association Agreements between Ukraine and the EU" – "The parties develop and strengthen cooperation on environmental protection and thus contribute to the long-term goals of sustainable development and green economy".

Introducing new approaches to decentralization and strengthening the powers of local self-government, Ukraine needs a clearly defined and acceptable to society strategy to achieve development goals under the "green" scenario, which actualizes the implementation of best innovative practices and tools [38].

It can be stated that in recent years Ukraine has made significant progress towards a green transition towards the European Green Course (EPC), which provides for the implementation of joint agreements on "green" financing to achieve climate neutrality, in accordance with international standards of decarbonisation policy. However, further concrete steps are needed to ensure the harmonization of public policy and legislation with EU policy and legislation in the context of the objectives of the European Green Course and the Association Agreement, in particular: monitoring, taxation, greenhouse gas emissions trading and the development and implementation of strategies, plans and EU legislation that will allow Ukraine to become an active participant in the dialogue with the EU, including on the model of low-carbon development.

The existing nature of economic development of society on the basis of raw material orientation of the production component is recognized in the world as hopeless and economically unprofitable. Such an approach to the organization of socio-economic relations has led to the problem of climate change. The consequences of the impact of these negative processes are exacerbated exponentially, and today humanity has faced an urgent challenge to keep the growth of temperatures at 2⁰C. According to experts opinion,

which was published in Glasgow at COP26, there is a danger that by 2030 the amount of harmful emissions into the atmosphere will be twice that needed to achieve the goal of limiting global warming at 1.5 degrees [49]. Therefore, it is necessary to more actively implement measures to prevent climate change. The most effective way to mitigate and slow down with the cessation of climate change is to reduce the emissions of greenhouse gas (GHG) emissions and intensify the activities that ensure their absorption. These requirements are consolidated by the policy of decarbonisation and low-carbon development, which is implemented through a system of financial and economic tools. Effective in this context are the instruments of fiscal direction along with the introduction of financial and economic levers to regulate carbon markets.

The international community is trying to adjust the processes of anthropogenic impacts on the environment and, above all, on the planet's climate system through agreements and joint commitments. This was embodied in the adoption of the UN Framework Convention on Climate Change (UNFCCC) and a number of subsequent documents. The realities of today, taking into account the requirements of the international community to regulate the process of climate change, increase the urgency of implementing a strategy of low-carbon development in all sectors of economic activity. New priorities in solving environmental problems are on the agenda. There is a need to increase the status of implementation of climate policy objectives, their consideration as an independent direction along with the problems of environmental protection from other types of man-made load. The functioning and increase of production volumes sometimes occurs due to the depletion of natural resource potential, and taking into account the cost of resources involved in the production process is insufficient, which threatens environmental safety. Thus, there is a need to reform the organizational and economic relations between economic entities in the process of nature management to ensure the implementation of low-carbon development, the scheme of the structure of which is presented in Fig. 1.

But the lack of a sufficient level of interest, incentives and levers to encourage entrepreneurs in decarbonisation and low-carbon development of economic and industrial activities is a barrier and creates obstacles to the successful implementation of a system of

measures in this direction. Ensuring the implementation of a low-carbon economic development strategy requires the implementation of economic reforms aimed at creating conditions in which the rate and volume of value added growth will directly depend on the environmental characteristics and inversely dependent on the degree of anthropogenic pressure created by these activities.

The most effective levers on this path are economic tools and above all these instruments of:

Fig. 1. The scheme of structure of formation of system of the balanced nature management

The diagram shows the connections: $\rightarrow$ basic; $\rightarrow$ auxiliary; $--\rightarrow$ financial.

Source: created based [35].

- fiscal group:
  - taxes,
  - subsidies,
  - environmental standardization and labeling,
  - organizational-economic and normative-legislative support of innovative branches of economy at the legislative level simultaneously with forming of a system of expenditures from the budget;
- market group.

The world practice has accumulated quite extensive experience in the use of tax instruments to regulate GHG emissions, but those functioning of a similar levers in Ukraine requires, in our opinion, optimization.

The experience of the countries of northern Europe, which has more than thirty years, has shown the effectiveness of involving tax instruments in the regulation of environmental problems. The world's first application of the carbon tax took place in Finland in 1990. Since then, 16 European countries have introduced carbon taxes ranging from less than € 1 per metric tonne of carbon emissions in Ukraine and Poland to more than € 100 in Sweden [46]. There is a differentiation of aspects of charges in different countries, along with differences in the attraction of different types of benefits, up to exemption from payment. For example, the tax on CO₂ emissions may not apply to electricity generation, as in Sweden, where taxation of hydrocarbon fossil fuels has been applied since 1991, on CO₂ emissions from combustion. At the same time, industrial enterprises pay only half of this tax. In addition, a number of incentives have been created for the development of green energy. This approach is an example of a combination of reducing CO₂ emissions while growing economically. This effect was noticeable five years after the introduction of the tax and remains stable to this day. Between 1990 and 2013, GDP increased by 61%, while CO₂ emissions were reduced by 23% [40].

Germany also joined the cohort of GHG taxation countries in 2021 to create active incentives to expand the use of renewable energy sources.

The peculiarities of the application of a similar tax in the UK, in addition to the differentiation of the tax base by type of energy, is that the financial burden is placed on consumers. However, there is a certain differentiation in the amount of taxation between industrial, transport energy consumers and households, while reducing mandatory payments to the budget for employers.

Another example of preferential support for national entrepreneurs is the experience of Denmark, where a system of voluntary agreements between the government and companies has been established since the 1990s, under which, according to the agreements, there is a system of proportional discounts on CO₂ tax.

At the same time, everywhere the funds received were used for various aspects of the target environmental purpose: either for technological improvements of production capacity, or for consumers through the modernization of industrial equipment or for any increase in energy efficiency. Through these efforts, countries with a long history of CO₂ taxation have increased the share of renewable energy while reducing GHG emissions.

The CO₂ emission tax introduced in Ukraine, which is a component of the environmental tax, although it was increased from January 2019 from 41 kop. up to 10 hryvnias per ton (ie 24.4 times), but has an insufficient level of environmental efficiency. The key reason lies in the fact that "the tax base for carbon dioxide emissions according to the results of the tax (reporting) year is reduced by the amount of such emissions in the amount of 500 tons per year", as specified in paragraph 242.4 of the Tax Code of Ukraine. The source of information on GHG emissions is the data of the statistical reporting form "2-ТП воздух". In this case, the object of taxation is, according to paragraph 242.1.1 "volumes and types of pollutants emitted into the atmosphere by stationary sources", ie mobile sources of emissions are not subject to this tax. Thus, the approach proposed for the calculation of this tax does not provide a broad coverage of CO₂ emissions, and its application does not create a sufficiently effective incentive effect to reduce GHG emissions. This is confirmed by a simple comparison of national statistical reporting data and information provided in the reporting documents of Ukraine to the UNFCCC Secretariat. According to preliminary

estimates, the share of tax-free emissions is 21% and 60%, respectively [45]. It should be noted that in governmental structures the possibility of increase of this tax three times (to 30 UAH for t CO₂) is considered. Thus, the parliamentary committee on finance, tax and customs policy on June 24, 2021 decided to take as a basis the bill № 5600 with this proposal, which provoked critical remarks [43]. However, questions arise as to whether an increase in emissions charges under the current approach will provide the desired environmental effect. In the short run, the tax provides relative certainty about the cost of reducing emissions, but there is uncertainty about the resulting emission reductions.

Another approach to regulating the dynamics and volumes of emissions is the introduction of a GHG emissions trading system (ETS). World experience since the second half of the last century demonstrates the high efficiency of this group of financial and economic tools. ETS play a key role in reducing GHG emission reductions, as 21 systems are currently operating on four continents and another 24 systems are being developed or under consideration. Emissions trading is introduced by countries that produce more than 42 % of world GDP, which is home to almost one-sixth of the world's population [47].

Ukraine plans to introduce a national ETS in 2025 in line with its commitments under the Ukraine-EU Association Agreement. Accordingly, the ETS development process takes place in accordance with the provisions of Directive 2003/87 / EC of the European Parliament and of the Council on the implementation of a system of greenhouse gas emission allowance trading within the Community. Until now, basic elements of the GHG monitoring, reporting and verification (MRV) system have been developed in Ukraine, which form a system of information and registration infrastructure for the operation of GHGs. The introduction of ETS in combination with other financial and economic instruments will bring not only a positive environmental effect, but also economic benefits by avoiding new "climatic" barriers to exports of domestic producers to the EU.

This applies to the situation with the implementation of carbon protectionism measures, which the European Commission planned to implement at the legislative

initiatives level in the second quarter of 2021. If Ukraine's merchandise exports to the EU meet European requirements, it will annually avoid excessive additional payments to national companies of more than 0.5 billion euros.

Ukraine has joined the global process to combat climate change since the ratification of the UNFCCC in 1996 and continues to work to meet its obligations under international agreements. Thus, after the ratification of the Paris Agreement in the summer of 2016 (Law of Ukraine dated 14.07.2016 № 1469-VIII) a number of bylaws were adopted. Key among them is the Order of the Cabinet of Ministers of Ukraine dated 07.12.2016 № 932 "On approval of the Concept of implementation of state climate policy for the period up to 2030" in order to improve state policy in the field of climate change. It will also contribute to the sustainable development of the state, the creation of legal and institutional preconditions for a gradual transition to low-carbon development, the creation of preconditions for the stabilization of economic, energy and environmental security and the well-being of citizens. This document sets tasks in the following areas:

- strengthening the institutional capacity to formulate and ensure the implementation of state policy in the field of climate change;
- prevention of climate change by reducing anthropogenic emissions and increasing GHG absorption and ensuring a gradual transition to low-carbon development of the state;
- adapting to climate change, increasing resilience and reducing the risks associated with climate change.

To fulfill the tasks set out in the Concept, the Order of the Cabinet of Ministers of Ukraine dated 06.12.2017 № 878-r "On approval of the action plan for the implementation of the Concept of state policy in the field of climate change until 2030" declared successive steps to combat climate change, of which so far:

To fulfill the tasks set out in the Concept, the Order of the Cabinet of Ministers of Ukraine dated 06.12.2017 № 878-r "On approval of the action plan for the implementation of the Concept of state policy in the field of climate change until 2030" declared successive steps to combat climate change, of which so far:

- the Strategy of low-carbon development of Ukraine for the period up to 2050 to "determine the strategic directions of the transition of Ukraine's economy to the trajectory of low-carbon growth on the basis of sustainable development in accordance with national priorities" has been approved;
- the Law of Ukraine dated 12.12.2019 № 377-IX “On Principles of Monitoring, Reporting and Verification of Greenhouse Gas Emissions” was adopted;
- the Procedure for monitoring and reporting on greenhouse gas emissions was approved by the Resolution of the Cabinet of Ministers of Ukraine dated 23.09.2020 № 960;
- the Procedure for verification of the operator's report on greenhouse gas emissions was approved by the Resolution of the Cabinet of Ministers of Ukraine dated 23.09.2020 № 959;
- the Nationally Determined Contribution of Ukraine to the Paris Agreement, which according to Decision 1 / SR.21 of the Conference of the Parties to the UNFCCC, Article 14 must be updated every five years [49] was approved by the Order of the Cabinet of Ministers of Ukraine dated 30.07.2021 № 868-r;
- the Strategy of ecological safety and adaptation to climate change for the period up to 2030 and the operational plan for its implementation in 2022 –2024 approved by the Order of the Cabinet of Ministers of Ukraine dated 20.10.2021 № 1363-r;
- developed a draft Concept of the State Scientific and Technical Program in Climate Change until 2030 to determine the optimal way to implement national and international tasks in the field of assessment and forecasting of future climatic conditions and develop measures to minimize the impact of climate change on the socio-economic sphere and environment of Ukraine with the subsequent integration of national climate research into international scientific and practical activities.

As can be seen from the analysis of these documents, the implementation of tasks and the achievement of the goals outlined in them, creates an institutional space and legal basis for intensifying the policy of decarbonisation and low-carbon development.

Today, the strategy of low-carbon economic development is a fundamental component of the strategy of sustainable development. However, there are a number of obstacles, barriers of an economic, political, organizational, and sometimes psychological nature. First of all, these are problems related to the global economic crisis, which fully affect Ukraine as well. Also, a constraining factor is the insufficient level of responsibility of economic entities regarding the requirements for the implementation of measures aimed at ensuring low-carbon development and / or their implementation is not in full or at an inadequate level of quality.

Achieving the outlined goals requires, in addition to involving institutional, organizational and economic tools and improving the environmental and economic mechanism, significant efforts in the direction of technical progress, which requires the development of scientific and methodological framework and consulting support. On this basis - the introduction of best management practices based on the use of the latest technologies, which in the complex is aimed at reducing the volume of income and carbon content in the atmosphere.