

TECHNICAL DESCRIPTION

(PART B)

Project name	Development of the Ukrainian forestry sector carbon potential to attract green finance for the restoration of forests damaged as a result of military actions
Project acronym	LIFE UKRFOREST
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PROJECT SUMMARY

The forest sector has significant potential to absorb greenhouse gas emissions and will play a critical role in climate change mitigation and adaptation. However, this potential remains underestimated and unrealized in Ukraine. 1) Ukraine's forest cover is not optimal, only 15.9% of Ukraine's territory is covered with forests. In order to achieve optimal forest coverage, it is necessary to additionally create about 2.5 million hectares of forest plantations. 2) More than 30% of the total area covered by forest vegetation in Ukraine (9.6 million hectares) was damaged as a result of the full-scale war unleashed by Russia in Ukraine. About 3 million hectares of forests need restoration. 3) Half of Ukrainian forests are represented by artificial forest plantations, a significant part of which are monocultures, vulnerable to climate change, forest fires, diseases and pests.

Project LIFE UKRFOREST is aimed at restoring the forestry sector of Ukraine and development its carbon potential. The project is based on a complex and systematic approach and covers four interrelated directions: 1) research activity; 2) educational activity; 3) informational and explanatory activity; 4) experimental projects.

As a result of the implementation of the LIFE UKRFOREST project, reliable data on the absorption of emissions in the forest sector of Ukraine will be obtained, sustainable forestry projects will be developed and implemented, and knowledge will be disseminated about carbon footprint compensation in the public and private sectors. The project includes pilot measures that will demonstrate the technical and economic feasibility of certain efforts in sustainable forestry and access to carbon markets. Upon completion of the project, a voluntary emissions compensation system will be promoted in Ukraine, which will make it possible to sell generated carbon credits on voluntary markets and attract appropriate financial resources for the recovery of Ukraine's forestry sector after the war.

The LIFE UKRFOREST project was developed in accordance with the goals of two sub-programs of the Environment and Climate Action (LIFE) program and will be implemented in a consortium together with partners from the European Union countries. The results of the project will form the basis of the policies making and the development of relevant state programs.

The project implementation period is 5 years (May 2024 - May 2029). The implementation of the project will take place in all regions of Ukraine, with the exception of territories where hostilities are ongoing .

The approximate budget of the project is about 5 million euros.

1. RELEVANCE

1.1. Background and general project objectives

Today, humanity faces serious climatic and ecological challenges caused by climate change and environmental degradation. A factor that largely affects climate change and environmental pollution is the economic activity of people. Since the 19th century, the increase in average global temperatures and the saturation of the atmosphere with greenhouse gases, such as CO₂, has been caused precisely by the burning of fossil fuels and deforestation.

Climate change is a global problem that humanity must solve together. To achieve the global goal of keeping global temperature rise to more than 1.5°C, all organizations and companies must implement their own decarbonisation initiatives and reduce their emissions to zero by 2050. And now key players around the world are creating new rules of life and business.

Ukraine has always been attentive to climate change issues and was one of the first countries which ratified the Paris Agreement. At the same time, Ukraine prepared and communicated the Second Nationally Determined Contribution to reduce greenhouse gas emissions by 35% by 2030 compared to 1990. It covers such sectors of the economy as: energy; industrial processes and use of products; waste; agriculture, land use, land use change and forestry.

At the international level, it is recognized the extremely important role of the forest as the main ground-based absorber of greenhouse gases and one of the most important ecosystem factors of prevention and adaptation to climate change. At the 21st session of the Conference of the Parties to the UN Framework Convention on Climate Change (Paris, 2015), in the context of sustainable development, a transition to a "low-carbon economy" model was declared, which can resist climate change, provided that the potential of forests is used to prevent climate change by absorbing greenhouse gases, primarily carbon dioxide, and retaining carbon in forest ecosystems.

Forests absorb more than 90% of the annual carbon flux between the atmosphere and terrestrial ecosystems. According to Ukraine's official national reporting to the UNFCCC (Ukraine's Greenhouse Gas Inventory 1990-2020), from 1990 to 2020, the amount of carbon absorption varied from 51.8 million tons of CO₂ equivalent in 1999 to 24.4 million tons of CO₂ equivalent in 2016, and for the last 5 reporting years (2016-2022), the amount of annual absorption amounted to an average of 26.5 million tons of CO₂ equivalent, or an average of 2.55 tons of CO₂ equivalent per hectare of forest land. Forestry in Ukraine is the singular sector of the state economy in which greenhouse gases are absorbed in volumes that significantly exceed the volumes of sectoral emissions.

The State Forest Management Strategy of Ukraine until 2035, which was approved by the Decree of the Cabinet of Ministers of Ukraine dated December 29, 2021 №1777, provides for the achievement of the goal of increasing the level of absorption of greenhouse gases by the forests of Ukraine to 75.6 million tons of CO₂-equivalent by introducing sustainable management of forest resources, increasing forest cover to 18%, and transitioning to methods of forestry close to nature. Achieving the set goal requires an increase in the amount of carbon absorption by forests by almost 3 times.

Currently, according to experts' estimates, the phytomass of Ukrainian forests contains about 8% of the carbon reserves of European forests. However, Ukrainian forests are gradually losing this potential. First, carbon absorption in forests will gradually decrease due to the natural processes of decreasing growth of forest phytomass due to changes in the age structure and aging of forests. Secondly, the full-scale war unleashed by Russia in Ukraine causes significant damage to both the environment and the forest fund. About 3 million hectares of forests were affected, which is more than 30% of the total area covered by forest vegetation in Ukraine (9.6 million hectares).

At the same time, as a result of military operations, greenhouse gas emissions in 2022 increased by 4 million tons, compared to the pre-war period. The constantly growing area of forest fires in the territories that were under the influence of hostilities reduce the capacity of forestry enterprises to carry out measures for the protection and protection of forests in the conditions of martial law.

In order to ensure the fulfillment of Ukraine's international obligations in terms of reducing greenhouse gas emissions, as well as the goals for increasing the level of their absorption by forests, determined by the State Forest Management Strategy of Ukraine until 2035, systematic work must be carried out in Ukraine to involve people responsible for expanding the area of forests and implementing sustainable forestry management projects. At the same time, there is a need to raise awareness among stakeholders on accounting for emissions and carbon sequestration, develop carbon business projects, and enter into voluntary offset markets.

Today, the European Union is working out the details of the introduction of measures regarding the carbon border adjustment mechanism (Carbon Border Adjustment Mechanism) in relation to third countries, including Ukraine. And this means that companies should be ready for some form of carbon tax on imports into the EU and understand how to measure your carbon footprint. At the same time, the development and implementation of the emissions trading system in Ukraine continues. In the framework of this market, netting mechanisms can be applied, by analogy with those used in the EU ETS. Already now, Ukrainian enterprises that generate more than 500 tons of CO₂ emissions per year are required to pay an

environmental tax in the amount of UAH 30 per ton of CO₂. Promoting a culture in public and private companies of voluntary carbon offsets through forest sinks can have a synergistic effect in attracting funds to restore forests damaged by military actions.

In order to strengthen the potential of Ukraine's forests in preventing and adapting to climate change, as well as attracting green financing for the restoration of forests after the war, the State Specialized Forestry Enterprise "Forests of Ukraine" (hereinafter - SSFE "Forests of Ukraine") developed the LIFE UKRFOREST project, which will be implemented in a consortium together with partners from the countries of the European Union.

The LIFE UKRFOREST project corresponds to the Environment and Climate Action (LIFE) program and covers four interrelated areas of work that will contribute to the achievement of the project's goals:

Direction 1. Research activity. It provides for the assessment of carbon absorption in selected areas of the forest of Ukraine as a result of sustainable forestry management (reforestation, afforestation, preservation of self-seeded forests). As part of this work, forecasts of carbon absorption in above-ground and below-ground biomass, as well as in dead organic matter and the organic part of soils will be prepared according to internationally recognized accounting standards (IPCC).

Direction 2. Educational activity. It includes raising the skills of stakeholders (owners of forests and self-forested plots, permanent forest users) on issues of sustainable forest management, using the potential of carbon absorption in the forest sector, developing carbon projects and entering voluntary compensation markets.

Direction 3. Informational and explanatory activity. Aimed at disseminating knowledge in public and private organizations on the promotion of a voluntary carbon trading system and carbon footprint accounting, creating a network for promoting a low-carbon economy after the completion of the project.

Direction 4. Experimental projects. It provides for the implementation of pilot measures to generate the first carbon credits in Ukraine, which will be formed as a result of ecologically sustainable forestry, and their sale on the voluntary market to companies interested in carbon footprint compensation.

1.2. Specific project objectives

A comprehensive and systematic approach is needed to strengthen the potential of Ukraine's forests in mitigating and adapting to climate change, using their carbon potential, and attracting green financing for forest restoration. First, it is important to have reliable data on emissions in the forest sector, the collection of which will meet international standards. The availability of reliable data will make it possible to develop and implement sustainable forestry projects. The promotion of a carbon footprint

compensation system in the public and private sectors through forest sinks will provide an opportunity to sell carbon credits on voluntary markets and attract the appropriate financial resource. And although the national carbon market in Ukraine is still underdeveloped now, the systematic involvement of stakeholders at all levels will allow strengthening the potential of the forest sector of Ukraine both in terms of absorbing carbon emissions and in mitigating and adapting to climate change.

In general, the LIFE UKRFOREST project will focus on five main objectives:

1. Development of forecasts of the level of carbon absorption as a result of sustainable forestry in selected areas of the forest fund: in above-ground and underground biomass, as well as in dead organic matter and the organic part of soils.

2. Dissemination of practices of assessment and accounting of carbon absorption in the forestry sector, training of forestry major stakeholders (owners of forests and self-forested areas, permanent forest users) on issues of forest conservation and increasing their productivity, strengthening their greenhouse gas absorption potential.

3. Supporting forestry major stakeholders in the development of various types of carbon projects (reforestation, afforestation, conservation of self-seeded forest) and consulting on entering the carbon markets.

5. Promoting a culture in public and private organizations for auditing and reducing carbon emissions and voluntary offsetting of the carbon footprint through forest sinks, creating a network of stakeholders to promote a low-carbon economy.

6. Implementation of pilot issues and sales on the voluntary market of carbon credits, which were formed as a result of sustainable forest management; dissemination of relevant experience for the state authorities responsible for the formation of relevant policies.

1.3. Compliance with LIFE programme objectives and call topic

The goals of the LIFE UKRFOREST project compliance to the goals of two sub-programmes of the Environment and Climate Action (LIFE) program, in particular:

1) LIFE-2023-SAP-CLIMA-CCM - Climate Change Mitigation.

Within the framework of item 4 of the sub-program " The development of land and sea management practices which have an impact on emissions and removals of emissions, conservation and enhancement of natural carbon sinks" the LIFE call 2023 encourages, in particular, projects which address:

a) practices that enhance carbon removals in soils and biomass (e.g. improved forest management, afforestation and forest restoration);

b) involvement of public authorities to integrate the information gathered through parcel-level monitoring into spatially-explicit databases, policy-making and

policy implementation at the regional or national level (e.g. GHG inventories, national CAP Strategic Plans, forest plans etc.);

c) development of a business model to remunerate individual actors for the result of climate-friendly land management practices (e.g. sales of carbon removal certificates to local stakeholders or along the value chain), with additional rewards for relevant climate adaptation or biodiversity co-benefits.

2) LIFE-2023-SAP-CLIMA-CCA - Climate Change Adaptation.

Within the framework of item 3 of the sub-program "Nature-based solutions in the management of land, forests, coasts and marine areas" the LIFE call 2023 encourages, in particular, projects which address:

a) develop and implement the necessary assessments, guidance, capacity building, and suitable financial approaches and products;

b) quantify the benefits of implemented nature-based solutions and better communicate them to decision-makers and practitioners at all levels to ensure uptake;

c) leverage more investments in nature-based solutions to generate gains for adaptation, mitigation, disaster risk reduction, biodiversity, and health.

Within the framework of clause 6 "Adaptation solutions for farmers, forest managers, Natura 2000 managers and other land managers" projects related to:

a) incentivise and assist the rollout of nature-based solutions through implementation of assessments, guidance, and capacity building;

b) encourage and implement adaptive, resilience-enhancing and climate risk reducing afforestation, reforestation, forest restoration and forest management systems, including closer-to-nature forestry approaches;

c) speed up and improve the delivery, accessibility and uptake of climate resilience decision support systems and technical advice;

d) pilot new business models and financial incentives for land-based carbon removals ('carbon farming') which provide climate adaptation co-benefits.

1.4. Concept and methodology

The concept of the LIFE UKRFOREST project envisages the implementation of its five stages within 5 years (May 2024 - May 2029). Each of the stages of the project is carried out together with partners from the countries of the European Union, which are part of the consortium.

At **the first stage** consultations are held with forestry major stakeholders (owners of forests and self-forested plots, permanent forest users), including offices and branches of the SSFE "Forests of Ukraine", as a result of which: a) a list of priority

areas for the start of the pilot project (forest restoration, afforestation, preservation of self-seeded forest) is formed; b) the list of tree varieties (depending on CO₂ absorption and methodology) and the planting standard (number of trees per 1 hectare) are agreed upon. Projects are discussed in the consortium to maximize the carbon sequestration potential of forestry. An individual approach is applied both in terms of the best combination of biodiversity and maximum carbon absorption by trees and soil. After the first planting of trees, members of the consortium jointly inspect the plots and check the condition of the planted trees.

At the same stage, using LIDAR laser pulse remote sensing technology and in accordance with IPCC accounting standards, modeling of carbon absorption as a result of sustainable forestry is carried out.

Methodology. According to international requirements (IPCC, Intergovernmental Panel on Climate Change, 2006), carbon in forest ecosystems should be determined for the following reservoirs (pools):

1. Above-ground phytomass.
2. Underground phytomass.
3. Dead wood.
4. Forest litter.
5. Organic part of soils.

At the same time, with the help of remote sensing technology of laser pulses LIDAR, monitoring of carbon absorption and emissions (in above-ground and underground phytomass) as a result of sustainable forestry will be carried out. This technology is already used in other countries and shows the best results (the density of 15 measurement points per square meter makes it possible to estimate carbon reserves and carry out continuous forest management works almost without human intervention).

So, modeling of carbon absorption in above-ground and underground phytomass is carrying out using LIDAR methods; in dead wood, forest litter and the organic part of soils – according to internationally recognized accounting standards (IPCC).

At **the second stage** the communication strategy, website and project image measures are being developed, campaigns to inform the target audience are being conducted. In particular, consultations are held with forestry major stakeholders (owners of forests and self-forested plots, permanent forest users), training seminars are organized on the sustainable forestry projects development and forest conservation, using forests potential in absorbing greenhouse gases and the possibility of participating in carbon markets. At the same time, consulting is provided on the registration of land documentation and the production of forest management

documentation for plots with self-seeding forests, assistance is provided in the development of a management plan and sustainable management of self-seeding forests.

At this stage, the technical documentation (concept note and design project) is also prepared for the pilot issuance of carbon credits in Ukraine, after which an independent auditor is engaged to validate the design documentation. If necessary, trees are replanted and checked after a certain period. After that, projects are registered on carbon platforms and projects are checked by the verification commission.

The third stage is the stage of replication and distribution. At this stage, the methodology and instructions for assessing and accounting for carbon absorption as a result of sustainable forestry based on IPCC standards are distributed, and stakeholders are supported in the development of business models for various types of carbon projects (reforestation, afforestation, preservation of self-seeded forests). At this stage, the methodology for the preparation of technical documentation (concept note and design project) for the generation of carbon credits is distributed, consulting is provided on entering the carbon markets.

At this stage, an interim evaluation of project implementation is also carried out. This includes an analysis of the project's performance indicators and a financial audit, as well as an assessment of the project's socio-economic impact and the project's impact on ecosystem services. The first results of the project are made public during conferences and relevant publications are prepared.

At **the fourth stage**, analysis and diagnosis of key sectors and compensation initiatives available on the market is carried out, investors (partners, counterparties) are searched for the sale of carbon credits on the voluntary market, preliminary contracts are concluded. In particular, emission reduction audit practices are spreading in public and private companies for searching Ukrainian companies interested in offsetting carbon emissions on the voluntary market through forest sinks. Additional consultations are provided to stakeholders in the development of decarbonization strategies and emission reduction plans. On the basis of these communications, a network is created for the promotion of a national voluntary carbon trading system in public and private companies upon completion of the project.

At **the fifth stage**, the generation of the first carbon credits in Ukraine is expected, which will launch a national voluntary system of compensation for carbon emissions. SSFE "Forests of Ukraine" will sell carbon credits to partners potentially interested in voluntary carbon footprint compensation through forest sinks. National companies (partners) receive the first carbon certificates in Ukraine, which allow to

reduce the financial obligations associated with the payment of environmental tax in the part of emissions of carbon dioxide into the atmospheric air by stationary sources of pollution. In this way, the internal system of registration and issuance of carbon certificates at the national level, as well as the system of implementation of the compensation itself, will be tested. The results of the pilot activities in the form of concrete proposals will be sent to the state authorities responsible for the formation of policies in terms of the development of a voluntary emission compensation system at the national level, the implementation of the best global practices and methodologies for accounting for carbon reserves in forests, and the development of relevant state programs.

At this stage, the results of the project implementation are summed up. In particular, an analysis of project performance indicators is carried out and a financial audit is carried out, as well as an assessment of the socio-economic impact of the project and the impact of the project on ecosystem services. At the final stage of the project, a final public report and a post-project communication plan are prepared.

Given the unstable situation in Ukraine, the LIFE UKRFOREST project will not work in regions where there are security risks.

2. IMPACT

2.1. Ambition of the impacts

The LIFE UKRFOREST project is a demonstration project. Until now, similar projects have not been implemented in Ukraine. At the same time, the European Green Deal declares that sustainable reforestation, as well as afforestation and restoration of degraded forests, can increase carbon sequestration while improving forest sustainability and promoting a circular bioeconomy.

Implementation of the LIFE UKRFOREST project will have long-term consequences:

1) Implementation of the project will reduce climate risks due to the diversification of various types of projects - reforestation, afforestation, preservation of self-seeded forests. As a result of the increase in the area of forests, the amount of absorption of greenhouse gases will increase. At the same time, sustainable forest management will help mitigate the impact of climate change on the forests themselves. In addition to reducing the risks of climate change, the implementation of the project will solve a complex of environmental and socio-economic problems that will have an impact upon the completion of the project: preservation of soils from erosion; air purification; reduction of pollution of water sources; enrichment of biodiversity;

increasing the level of employment of the rural population; increase in the production of wood and non-wood forest products.

2) The implementation of the project makes it possible to determine the net stock of carbon in selected areas of the forest according to IPCC international accounting standards and to develop forecasts of carbon absorption in the context of various types of projects (reforestation, afforestation, preservation of self-seeded forests). Approbation at the national level of the internationally recognized carbon accounting methodology in the forestry sector and the carbon absorption monitoring system will provide an opportunity to use it in the future for the forestry sector.

3) Within the framework of the project, the knowledge obtained from international partners will be disseminated. Since it has been proven at the international level that the forest sector plays a critical role in carbon sequestration and contributes transition to a low-carbon economy, a wide-ranging campaign will be conducted for forestry major stakeholders (owners of forests and self-forested areas, permanent forest users) to disseminate the methodology of accounting and assessment of carbon absorption as a result of sustainable forestry management. At the same time, educational programs will be organized, in which they will learn about the impact of forests on climate change, their potential in absorbing greenhouse gases, creating carbon credits or verified reduction of emissions due to planting and restoration of forest stock. They will be provided with advice on the development of various types of carbon projects, which will provide opportunities to enter the carbon markets.

4) As a result of the implementation of the project, a network will be created for the promotion of the voluntary carbon trading system. Conducting awareness campaigns for organizations of all forms of ownership will improve their attitudes towards climate change mitigation, awareness of carbon accounting and the use of the forest sector's potential to offset emissions. Additional consultations will be provided to key stakeholders in the development of decarbonisation strategies and emission reduction plans. In this way, organizations will commit to reducing emissions and offsetting them in the short and medium term.

5) The implementation of the project will allow attracting green financing for the restoration of forests damaged as a result of military actions. Experience in the implementation of pilot issues and sales on the voluntary market of carbon credits, which were formed as a result of sustainable forest management, provide an opportunity to direct the funds raised in nature-oriented solutions in forestry of Ukraine, including such as: conducting forestry close to nature; preservation of primeval forests and ancient forests; conservation of self-seeded forests; conservation of floodplain forests; creation and preservation of field protection forest strips; restoration of forest landscapes; increasing the biomass productivity of forest plantations; improving the protection of forests from pests and diseases and protection

from fires. This will contribute to the fulfillment of the goals set by the State Forest Management Strategy of Ukraine until 2035 and will play an important role in adapting to climate change and fulfilling Ukraine's international obligations to reduce greenhouse gas emissions by 35% by 2030 compared to 1990.

2.2. Credibility of the impacts

The credibility of the impact of the LIFE UKRFOREST project will be measured by four groups of indicators:

- 1) Obtained forecasts of carbon absorption:
 - the total number of developed forecasts of carbon absorption (including data on carbon stocks and methodology) in terms of different types of projects: reforestation, afforestation, preservation of self-seeded forest - units;
 - the number of forecasts used in pilot projects with generation of carbon credits on the voluntary market in accordance with international standards - units;
 - the number of forecasts used in pilot projects with sale of carbon certificates at the national level - units.

- 2) Developed carbon projects:
 - the total area of the territory where sustainable forestry projects were implemented - hectares;
 - the number of carbon projects developed jointly with forestry major stakeholders (owners of forests and self-forested plots, permanent forest users), of which fully implemented projects - units;
 - the level of carbon absorption within the framework of project implementation, including the expected level of absorption in the long term (100 years) - tons.

- 3) Organizations involved in voluntary emission compensation:
 - the number of organizations that have undertaken to reduce emissions and their compensation in the short and medium term - units;
 - the level of emissions that the involved organizations managed to avoid - tons of CO₂-eq.
 - the number of organizations that partially offset their emissions with forestry projects (carbon certificates) - units;
 - the amount of total compensation for emissions, of which due to sustainable forestry projects - tons.

- 4) Impact on stakeholders:

- the total number of people who participated in training events - units;
- the number of forestry major stakeholders (owners of forests and self-forested plots, permanent forest users) who have received training in the part of calculating carbon absorption and developing carbon projects - units;
- the number of persons (representatives of companies) who have undergone training in terms of reducing emissions and calculating the carbon footprint - units.
- the number of people who entered the network - units;
- number of website visits – units;
- number of subscribers in social networks - units;
- the number of publications, including: manuals; specialized, technical, and scientific articles - units.

2.3. Sustainability of project results

After completion of the LIFE UKRFOREST project:

1) Qualified personnel trained in the development of various types of carbon projects (reforestation, afforestation, preservation of self-seeded forests) will remain in Ukraine. They will spread knowledge about reducing emissions into the atmosphere through the creation of carbon credits or verified reductions in emissions through planting and reforestation.

2) The results of the project will remain available to all market participants after the completion of the project. Information about the project results, methodology and work carried out to promote the voluntary system of trading carbon emissions is reflected in mass media, in particular in periodical professional publications.

3) Measures for the pilot issuance of carbon credits will be established in Ukraine at the institutional level and will be adapted to future demand. The results of the pilot activities in the form of concrete proposals will be submitted to the responsible state authorities for the purpose of policy formation in terms of the development of a voluntary emission compensation system at the national level, consolidation of the best global practices and methodologies for accounting for carbon stocks in forests. The creation of relevant state programs will also ensure the necessary effect after the completion of the project.

4) Service providers will ensure the dissemination of prepared professional information beyond the time frame of the project. In particular, the method of assessment and forecasts of carbon absorption by forests, the results of the work on the promotion of culture in public and business organization on voluntary compensation of the carbon footprint will be posted on the project website. After the project, the website will serve as a carbon sequestration modeling tool and a platform to share

contact information between companies. Within the framework of this platform, a network for the promotion of a low-carbon economy will be formed, which will allow preliminary agreements for the purchase and sale of carbon credits on the voluntary market to organizations interested in carbon footprint compensation.

5) The development of emission reduction projects and the creation of carbon credits will provide additional incentives for the decarbonization of the economy by attracting funds on international carbon markets. Pilot issues of carbon credits will provide a signaling effect to others. New players will enter the market (owners of forests and self-forested plots, permanent forest users) who are already familiar with carbon credit issues and are interested in attracting additional financial resources. In this way, a multiplier for the attraction of green financing for the restoration of forests damaged as a result of military actions will be created, since the funds raised on the voluntary markets will be returned to the forestry sector under the revolving procedure.

3. IMPLEMENTATION

3.1 Work plan

The LIFE UKRFOREST project will be implemented for 5 years (May 2024 – May 2029). Given the numerous obstacles that currently exist in the voluntary compensation market in Ukraine, there is a need to implement a systemic package of measures aimed at strengthening the forestry sector in mitigating and adapting to climate change. In order to build the carbon potential of the forestry sector and quality management of the LIFE UKRFOREST project, it will focus on five packages of measures:

A Studying measures

A1 Dissemination of knowledge among major forestry stakeholders (owners of forests and self-forested areas, permanent forest users) regarding carbon absorption in the forestry sector and the system of voluntary compensations.

A2 Approbation of methodologies for the quantification and accounting of carbon absorption as a result of sustainable forestry.

A3 Training on the development of feasibility studies in the context of various types of projects (reforestation, afforestation, and preservation of self-seeded forests).

A4 Promotion of practices in public and private companies regarding emission reduction audits and carbon offsets in voluntary markets.

A5 Formation of political proposals and recommendations for the Ukrainian government concerning the carbon absorption audit and the development of a voluntary system of compensation for emissions at the national level.

B Experimental measures

B1 Formation of a list of priority territories for the start of pilot projects (forest restoration, afforestation, preservation of self-seeded forest).

B2 Quantification of carbon reserves in selected forest areas (above-ground and underground phytomass) using LIDAR methods and, accordingly, the internationally recognized IPCC methodology (dead wood, forest litter, soil organic matter).

B3 Selection of tree varieties for planting in selected forest areas (depending on CO₂ absorption and methodology), agreement on planting standards (number of trees per 1 hectare).

B4 Development of technical documentation (concept note, design project) for pilot carbon projects, registration of projects on the carbon exchange.

B5 Assessment of potential the market of compensation initiatives, key sectors and national companies interested in compensation of carbon emissions through forest sinks, conclusion of preliminary contracts.

C Surveillance measures

C1 Monitoring of carbon stocks in selected forest areas: above-ground and underground phytomass - using LIDAR methods; dead wood, forest litter, soil organic matter - according to the international standardized method IPCC.

C2 Monitoring of carbon absorption in the context of various types of projects (forest restoration, afforestation, and preservation of self-seeded forests), development of climate change mitigation measures.

C3 Independent audit, inspection and verification of pilot projects by a third party.

C4 Monitoring of the impact of the project on ecosystem services.

C5 Monitoring of the socio-economic impact of the project.

D Dissemination measures

D1 Development of the communication strategy, distribution and replication strategy, project image measures.

D2 Development of the project website.

D3 Conducting campaigns to inform the target audience (organization of conferences, issue of periodical publications, installation of information banners at educational places).

D4 Creating a network.

D5 Preparation of the final public report.

E Administration measures

E1 Project management.

E2 Financial audit.

E3 Training, seminars and meetings for staff and beneficiaries.

E4 Analysis of project performance indicators.

E5 Communication plan after project implementation.

Taking into account the economic situation in Ukraine as a result of Russian aggression, the project will focus primarily on packages of measures that require small investments or no additional costs at all.

3.2. Stakeholder engagement

As part of the implementation of the LIFE UKRFOREST project on the territory of Ukraine, interaction will be carried out with three groups of interested parties:

The first group is major forestry stakeholders (owners of forests and self-forested plots, permanent forest users). This a group of interested groups will be involved in learning about sustainable forestry, assessment of the potential of forests in the absorption of greenhouse gases and development of carbon projects by directions (forest restoration, afforestation, and preservation of self-seeded forests).

The second group is enterprises, organizations of all forms of ownership, which will be involved in exercises on accounting for emissions reduction and voluntary carbon compensation through forest sinks. Additionally, organizations will be provided with advice on the development of decarbonization strategies and emission reduction plans.

The third group is state authorities. In particular, at this stage, the central bodies of the executive power will be involved (the State Forestry Agency, the Ministry of Environmental Protection and Natural Resources of Ukraine, the Ministry of Community Development, Territories and Infrastructure of Ukraine, the Ministry of Finance of Ukraine, the Ministry of Economy of Ukraine, the Ministry of Agrarian Policy and Food of Ukraine, the State Service of Ukraine for Geodesy, Cartography and Cadastre, the State Aviation Service of Ukraine) in the part of policy formation regarding the development of a voluntary emission compensation system at the national level, dissemination of practices and methodologies for determining carbon reserves in forests, development of state target programs. Separately, local self-government bodies and territorial communities will be involved in the preparation of land documentation and on plots with self-seeding forests.

At the same time, within the framework of the implementation of the project's pilot activities, the following will be involved:

a) internationally accredited organizations (exchanges, platforms, audit and verification bodies) working on voluntary and mandatory carbon markets in terms of audit, inspection, registration and verification of the project.

b) specialized non-governmental organizations in terms of informing the target audience, spreading project practices and methodologies, ensuring transparency of project implementation.

c) international financial organizations and international technical assistance projects in terms of co-financing project costs (if necessary).

4. RESOURCES

4.1. Consortium set-up

The LIFE UKFOREST project will be implemented in a consortium together with partners from the European Union countries in close cooperation with interested parties (major forestry stakeholders, enterprises of all forms of ownership, state authorities).

The project LIFE UKRFOREST initiates SSFE "Forests of Ukraine", which is one of the largest state forest companies in Europe. SSFE "Forests of Ukraine" takes a responsible approach to business and takes into account all current management trends of modern forest companies. In its business activities, SSFE "Forests of Ukraine" consistently ensures compliance with Ukrainian and international legislation, corporate ethics requirements, as well as anti-corruption standards. SSFE "Forests of Ukraine" has created a transparent model of forestry management with a focus on the detinization of the wood market and responds to the current challenges and needs of Ukrainian society, while acting in the interests of future generations.

SSFE "Forests of Ukraine" recognizes the social responsibility of business and therefore does not limit itself to ensuring stable financial income. SSFE "Forests of Ukraine" plans to become a partner for most communities in all regions of Ukraine and to implement joint social and infrastructure projects.

SSFE "Forests of Ukraine" pays special attention to the issue of climate change, achieving a zero level of emissions is a key goal of the enterprise. Therefore, the SSFE "Forests of Ukraine" is interested in improving the issue with the absorption of greenhouse gases and carbon sequestration in the forestry sector, increases the area of forests due to the afforestation of unproductive or degraded lands, as well as the preservation and conversion of self-forested areas into forest lands.

Every year, SSFE "Forests of Ukraine" carries out reforestation and afforestation on an area of about 35,000 hectares, and also cooperates with communities to transfer

forested areas to the forest land, which helps preserve and protect self-seeded forests and increase their productivity. In particular, from the beginning of 2023, about 5 thousand hectares of self-seeded forested land plots was transferred in forest land.

To ensure transparency, accountability, and consistency of working activity with green finance, the Regulation on green finance process was approved in the SSFE "Forests of Ukraine" (Order №1427 dated 11.08.2023). The regulation defines the procedure for developing the company's policy in this area and the using of funds, project evaluation and selection procedures, reporting on the impact of projects on the environment, the involvement of an external independent controller (verifier), environmental and social risk management, as well as other issues related to green finance.

So SSFE "Forests of Ukraine" has significant potential in the administration of the LIFE UKRFOREST project and assumes responsibility for its correct implementation. At the same time, SSFE "Forests of Ukraine" involves partners from the countries of the European Union in the implementation of the project in terms of spreading experience and successful practices of sustainable forestry and assessing the potential of forests in absorbing greenhouse gases, transferring knowledge from experts to stakeholders at various levels in terms of developing carbon projects and entering carbon markets.

Intensive professional exchange with other international partners will make it possible to eliminate opportunities for corruption, misappropriation of funds and other factors that hinder development. At the same time, the tools available for monitoring the effectiveness of the project, which take into account the existing risks and conflicts, will be applied.

4.2. Budget

The LIFE UKRFOREST project will be implemented for 5 years (May 2024 – May 2029).

The approximate budget of the project is about 5 million euros:

- 40% of project costs are covered by SSFE "Forests of Ukraine" together with partners from European Union countries. SSFE "Forests of Ukraine" provides financing for forest regeneration and forest care activities. Also, SSFE "Forests of Ukraine" covers certain project administration activities (provision of premises, preparation of materials, clerical expenses). Contributions of partners are determined by agreement and set out in the project agreement.

- 60% of costs are covered by the account of the grant received within LIFE programs. These costs include the financing of training, consulting and involvement of relevant specialists. However, at the expense of the grant finances the costs of using equipment (LIDAR), payment of services of auditors and verifiers, registration of projects on international carbon platforms, operational costs (creation of a website, conducting information campaigns, payment of publications and travel, etc.).

Taking into account the economic situation in Ukraine, measures and services that can be implemented without significant investments will have priority (especially at the initial stage of project implementation).

The final project budget will be determined after additional calculations.