



## DEVELOPMENT EMERGENCY MODALITY

### Joint Programme 2022 Annual Progress Report

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#### Cover Page

**UNCT/MCO:** Ukraine

**Reporting Period:** 1 January - 31 December 2022

**JP title:** Addressing the compounded food and energy crisis in Ukraine through innovative technologies and adaptive agricultural practices

**Thematic SDG Areas:** Decent jobs & universal social protection; Climate action & energy transformation;

**PUNOS:** FAO, UNEP, UNECE

**Stakeholder partner:** National Government; Parliamentarians; Private sector;

**Gender Marker:** Gender-sensitive (for example, the JP acknowledged and aimed to address gender to enhance the policy/programme, such as undertaking gender analysis to ensure policies/programmes do no harm)

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#### Annual Progress

##### Overall JP self-assessment of 2022 progress:

Satisfactory (majority of annual expected results achieved; 1 to 3 months delay in implementation)

##### Overall Progress

As part of the joint report on Ukraine's potential to achieve a balanced ratio between agricultural output and biofuel production, UNECE conducted an analysis of the normative and institutional framework in support of increasing the renewable energy uptake with special attention to bioenergy in Ukraine. In particular, relevant available data was compiled; existing normative and legislative framework in support of renewable energy uptake was assessed; existing barriers for the development of biofuels market in Ukraine were analyzed; different policies and frameworks to support the renewable energy uptake applicable for Ukraine were identified; policy guidelines to the Government to overcome the existing barriers and support the development of biofuel strategy were developed; recommendations on the needed normative and institutional changes were prepared; and suggestions for pilot projects on how to increase the renewable energy uptake through bioenergy were provided. Additionally, the project brochure was prepared.

The output's achievement is on track. The results of this analysis will be presented to the Government of Ukraine during the joint round table in the end of January 2023.

## **SDG Acceleration progress towards the SDGs, focusing on the main SDG targets**

Analysis of the normative and institutional framework in support of increasing the renewable energy uptake with special attention to bioenergy in Ukraine contributes to the SDG 7.1, 7.2, and 7.a.

SDG 7.1. Scale up of the bioenergy and biofuels projects in Ukraine would increase access of the Ukrainian population to the clean energy sources. The analysis proposes to use biomass as one of the most perspective sources of renewable energy coming from carbon containing organic materials of plant. Using various transformation processes such as combustion, gasification, pyrolysis the biomass is either transformed into biofuels, heat or electricity.

SDG 7.2. The study reveals that Ukraine has potential to significantly increase share of the renewable energy in the country's energy balance by the expansion of biofuels production from the agricultural products and waste. Ukraine has a good potential for the active development of the bioenergy sector. As part of promoting energy security, Ukraine's government is planning to increase share of renewables by adopting supportive policies. Energy sector reform remains major action to promoting Ukraine's sustainable growth.

SDG 7.a. To implement the project, three UN agencies (FAO, UNEP, UNECE) have partnered in the joint effort to analyse biomass and biofuels potential in Ukraine, identify feasible biofuels potential in Ukraine, assess legislative barriers and obstacles preventing development of biofuels sector in Ukraine and develop set of recommendations for the Ukrainian government to make biofuels sector in Ukraine grow. Efforts to advance energy policies require the reform processes in order to identify potential challenges ahead. The analysis contains a general assessment of the energy sector of Ukraine, the current state of development and potential of bioenergy, existing legislative framework and valuable initiatives for the bioenergy sector development.

### **Constraints that were encountered and any adjustments that were made to strengthen the relevance and effectiveness of the JP and the coherence and coordination of UN system support.**

Considering the war in the country and the need to coordinate the project between the three UN agencies (FAO, UNEP and UNECE) it took more time to conduct the analysis, make informed conclusions and develop recommendations for the Government. Thus, the project was extended for 3 months to make sure that all planned outputs are delivered. In terms of adjustments, additional time was needed to identify key existing barriers for the development of the biofuels market in Ukraine, and develop policy guidelines to propose the Government to overcome the existing barriers and support the development of a biofuel strategy in Ukraine. A consultation process with the Government and other stakeholders is needed to ensure the added value of recommendations on the normative and institutional changes in support of increasing the renewable energy uptake with special attention to bioenergy in Ukraine.

### **Next steps, scaling and sustainability [up to half a page]**

FROM EX SUMMARY

A expected medium-long term result of this programme:

It is expected to design and implement strategies to stimulate the increase in the number of biogas production plants put into operation (depending on the location of the enterprise - production of biogas for electricity and heat or biomethane) from waste and agricultural products, biodiesel and bioethanol production plants. In parallel, the installation of solid biomass boilers will be stimulated to replace imported natural gas. The combination of the use of solid biomass, including straw and corn stalks (given its greatest potential in the territory of Ukraine), the production of biogas/biomethane from waste, the production of energy crops (2-4 million hectares of suitable land) and energy saving measures, with the creation of a favorable legislative environment, can replace all imports of natural gas (about 9 billion m<sup>3</sup> in year).

ANSWER TO Q.12

In January-March 2023, the preparations for the multi-stakeholder dialogue on how to use the untapped renewable energy potential will be conducted by the implementing partners.

The multi-stakeholder dialogue will allow involvement of high-level Government officials and provide assurance that the Government owns the results of the project and implements proposed recommendations.

Additionally, at the multi-stakeholder dialogue, the issue of abolishing the excise tax for 5 years on imported vehicles running on gas/biogas (CNG and LNG) and bioethanol will be initiated. A similar bill is in force for electric vehicles (BEV and PHEV) in Ukraine.

Its adoption gave a significant impetus to the development of electromobility area.

Three sets of simple business models are being developed for bioenergy businesses to help businesses assess their ability to produce biofuels, estimate the potential added value in dollars per hectare per year (a clear indicator for Ukrainian businesses) and inform about existing incentive laws in this area.

These materials will be distributed to farmers through local authorities. Also, farmers and agricultural holdings will have access to our materials on the study of three operating enterprises in Ukraine (biogas, bioethanol and biodiesel plants), to use these cases to develop their own business.

#### FROM REPORT- NO QUESTION REFERENCE:

An indirect result of this program will be an increase in the number of jobs and replenishment of local budgets, primarily in villages and settlements. This is expected to have a positive impact on the local administrations and communities. With an economically viable part of biomass and agricultural crops for the production of biofuels and bioenergy, up to USD 4-6 billion would remain in the Ukrainian economy annually (2035 y scenario), up to 10-20 percent of which would contribute to salaries, taxes and social support programmes.

These figures are confirmed by the roadmap for the investment potential of biomass, which is being prepared within the framework of this project (draft attached. Item 4)

The development of the bioenergy market means new jobs in villages and revenues to local budgets, which means that villagers (including youth) will receive new jobs in their areas and will not be forced to move to big cities in search of work, where they may not be socially protected.

## Strategic Partnerships and Communications

### Explain how diverse stakeholders were engaged with the JP

UNECE aims to validate the recommendations on the normative and institutional changes in support of increasing the renewable energy uptake with special attention to bioenergy and cooperate on that with the Government institutions in Ukraine, namely the Ministry of Energy; the Ministry of Agrarian Policy and Food; Parliament Committee on Energy, Housing and Utilities Services; and the State Agency on Energy Efficiency and Energy Saving. rivate sector: -Gals Agro, -MHP Eco Energy, -Smilaenergopromtrans, -Clear Energy -UABIO - Institute of Bioenergy Crops and Sugar Beet (NAAS) - Headquarters for the regional infrastructure restoration and transformation (UAROR) - Other participants interested in growing energy biomass.

#### Key meetings and events organized

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JP steering committee/ programme board meeting	Strategic partners/ donors	Kick-off meeting event
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## Priority Cross-cutting Issues

### Cross-cutting results/issues

The results of the analysis show that Ukraine can replace imported natural gas by biomethane. The replacement of natural gas import will save \$ 4-6 billion spent on the gas annually; it will bring an opportunity for agri producers to create added value from waste and invest in renewable energy technologies. By processing the exported rapeseed, Ukraine can replace up to 15 % of its diesel consumption. Used oil and oilseeds processing waste collection would even further expand the biodiesel potential. By processing 1 million t of corn and producing 300 000 t of bioethanol, Ukraine can replace up to 15 % of its gasoline use. With 40 million t of corn produced, Ukraine can significantly reduce its dependance on gasoline imports by adopting flex fuel vehicles and increasing corn processing to bioethanol. Use of the biofuels in transport sector will reduce GHG emissions and save at least \$ 2

billion spent on import annually.

Key needs to stimulate biofuels production:

- Adoption of the draft law on the development of the liquid biofuels market;
- Reduction of excise taxes for biofuels and alternative motor fuels (mixes of traditional fuels and biofuels);
- Introduction of amendments to the Tax Code of Ukraine;
- Creation of incentives for internal processing of grains and oilseeds;
- Development and adoption of technical regulations for alternative fuels with higher content of bioethanol and biodiesel.
- Creation of incentives and setting targets for the use of biomethane, as a transport fuel;
- Creation of incentives for the export of biomethane, enabling Ukrainian producers to confirm the biomethane origin;
- Implementation of the biomethane Register.

Following the recommendation and request from the Ministry (MAPF) and based on the conducted analysis a set of recommendations and typical business models for agricultural producers and farmers were developed. These recommendations will help self-identify what type of value-added bioenergy business may be relevant for the producer, depending on the amount of raw materials and waste, on the size of land and number of livestock.

Such information materials are now in demand in Ukraine, as a lack of knowledge and unclear legislative framework hinder agricultural producers from exploring new approaches and opportunities to agricultural waste and products processing, while they may have all resources to produce energy and biofuels from waste.

### How did the JP apply the Gender Marker

The JP is Gender-sensitive (for example, the JP acknowledged and aimed to address gender to enhance the policy/programme, such as undertaking gender analysis to ensure policies/programmes do no harm). N/A;gender-blind;

### JP address the below cross-cutting issues and principles of leaving no one behind

Human Rights	Persons with disabilities	Youth	Environmental and social standards
No	No	Yes	Yes

### Contribution to enhancing SDG Financing

Drafted a bill, strategy, and/or approved a law increasing the fiscal space for the policy in focus	Produced financing, costing, diagnostic and feasibility analyses as a basis to invest or increase spending on the SDGs	Improved efficiency (cost savings) in the management of programmes/schemes	Improved effectiveness (value for money; i.e. social impact of \$1 spent) of spending	Drafted policies/regulatory frameworks or developed tools to incentivize private sector investment on the SDGs	Structured new financial instruments (public, private or blended) to leverage additional funding
Yes	Yes	Yes	Yes	Yes	No

### How and in which area your JP contributed to enhancing SDG financing

At this moment (February 2023) of the Joint project, the potential of the necessary investments for the development of the bioenergy industry is being assessed. The creation of a favorable legislative framework is one of the key conditions for stability and an incentive for development.

In the current conditions of rising energy prices and energy shortages, a simple payback period for such projects is on average 4-6 years. This is an attractive indicator for banks and financial institutions, especially for those who aspire to become leaders in financing the Ukrainian agricultural sector, its development and green transition.

The legislative framework that will support this direction can also be an impetus for more active involvement of banks. Given such payback periods, the adopted bills should have a validity period of 5 years or more. An alternative scenario would be proposals for a

legislative roadmap for 15 years in steps of 5 years.

Ukraine already has an example of a leap in the development of alternative energy thanks to legislative support (stimulus tariff and the creation of a guaranteed buyer of green energy). This example and its lessons and opportunities for bioenergy are given below: Over the past 10 years, the renewable energy market in Ukraine has amounted to more than USD 10 billion in investments, with solar energy being the primary source (up to 9.0 GW of installed only-grid capacities), and the main driver being the feed-in tariff (Green tariff).

The feed-in tariff created an additional financial burden on the Government as well as the obligation to purchase all solar energy by the state, even if there is a surplus, which led to a failure in payments since the emergence of Covid and then the Russian invasion.

An additional problem quickly appeared – the shortage of maneuvering capacities for balancing solar and wind power plants before the break-out of largescale war (according to preliminary estimates 5-8 GW), the situation was aggravated by the shelling of the existing maneuvering capacities (central coal and gas power plants) by the Russian Federation.

Bioenergy, in addition to solving the issue of moving away from dependence on imported fuels, solves the second problem - balancing the existing power system (especially due to the new biogas and biomass power plants) and decentralizing heat and power generation. The rise in energy prices makes these projects profitable without incentives in the form of a feed-in tariff.

According to our preliminary calculations, the bioeconomy can leave up to USD 4-6 billion in Ukraine annually, allowing farmers and agricultural firms to receive value-added products. Thus, the Ukrainian bioenergy market requires more than USD 10 billion of investment in the next 15-20 years, as well as the creation of regulatory conditions for the development of the market (the main objective of this joint project).