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Exchange of experiences on how to increase the uptake of renewable energy. Case studies on Ukraine: strategy and plans for energy sector renovation with the use of renewable energy sources

Multi-stakeholder Dialogue: policy recommendations to support biofuels market development in Ukraine

Note by the secretariat

Summary

Bioenergy is a promising energy sector in Ukraine, and its development requires constant interaction among all involved actors. For this purpose, a multi-stakeholder dialogue was arranged in Kyiv on 31March 2023. This event can be considered as a platform for the development and support of the bioenergy sector of Ukraine.

The dialogue was based on the results of a comprehensive analysis and study of the potential of biofuel production in Ukraine to help reduce Ukraine's dependence from imported energy sources by producing alternative and ecological types of biofuels and taking into account the development of the agricultural sector.

In this regard, the main objective of the multi-stakeholder dialogue was to review findings of the analysis, discuss key issues, identify priorities and solutions as well as propose concrete recommendations for developing a strategy on the production and use of bioenergy resources, in particular biomethane, bioethanol and biodiesel.

The meeting was arranged in the framework of the project "Addressing the compounded food and energy crisis in Ukraine through innovative technologies and adaptive agricultural practices" which is implemented by the United Nations Economic Commission for Europe (ECE) jointly with Food and Agriculture Organization (FAO) and the United Nations Environment Programme (UNEP).

As part of this project, there was prepared a study to assess the role of bioenergy for ensuring energy resilience in Ukraine and provide policy recommendations to improve normative and legislative framework for increasing the renewable energy uptake in Ukraine through bioenergy sources.

This is contributing to a comprehensive analysis on the current energy aspects of the crisis in the country to support a better knowledge of the situation and, therefore, to lead an informed decision on a suitable biofuel strategy for Ukraine.

I. Overview

1. The multi-stakeholder dialogue – “Untapped Bioenergy Potential of Ukraine: Issues of Energy Security and Food Security” was held for developing a strategy on the production and use of bioenergy resources, in particular biomethane, bioethanol, biodiesel and solid biomass.

2. The dialogue among key stakeholders included the identification of possible priorities to achieve food security and accomplish relevant Sustainable Development Goals. As a result of discussions held, the final agreed conclusions of the Multi-stakeholder Dialogue have been forwarded as recommendations to relevant governmental bodies of Ukraine.

3. For each technology, the specific barrier is shortly described following a possible solution and specific recommendation. The key responsible institutional players for taking actions to overcome the barriers are also set out.

4. Bioenergy sector remains one of the most important industries in Ukraine, which, without prejudice to food safety, is able to ensure complete independence from natural gas and reduce dependence on other types of fuel. The industry has huge potential for investment and creation of supportive regulatory environment is essential to attract investors and help existing businesses to grow.

II. Objective

5. The main objective of the multi-stakeholder dialogue was to identify priorities to achieve food security and Sustainable Development Goals. The recommendations resulting from the dialogue were considered for the final agreed conclusions and forwarded to relevant governmental bodies for implementation.

6. Several barriers exist in the bioenergy sector, and for each technology, specific barriers and recommendations have been identified. The underdeveloped fuel market requires the creation of a biofuel market, and the development of regulations would improve its activities.

7. The multi-stakeholder dialogue was organized for improving bioenergy sector market development in Ukraine and identified major challenges and barriers hindering the growth and development of the bioenergy sector in the country. The dialogue brought together key stakeholders including government officials, industry players, investors, civil society organizations, and academic experts to discuss and propose possible recommendations for developing a comprehensive strategy on the production and use of bioenergy resources.

8. Such an event was intended to promote an enabling regulatory environment, enhance access to finance and technology, and facilitate cross-sectoral collaborations to accelerate the deployment of bioenergy technologies in Ukraine. The dialogue tried to identify and prioritize the most promising bioenergy technologies, such as biomethane, bioethanol, biodiesel, and solid biomass, that can contribute to energy security, rural development, and environmental sustainability. Ultimately, the dialogue aimed to formulate actionable recommendations for improving the bioenergy sector market development in Ukraine and ensure that the country can achieve its sustainable energy goals.

III. Recommendations

9. The bioenergy sector in Ukraine has great potential for growth and could play a vital role in reducing the country's dependency on fossil fuels. However, to achieve this, there are numerous legislative and normative changes that need to be implemented. During the event the institutional and normative framework to increase the uptake of renewable energy was analysed, with a special focus on bioenergy in order to recommend necessary changes. With global trends indicating an increase in fossil fuel prices, Ukraine's dependence on oil supplies from abroad poses a significant challenge to the country's energy production, and investments are required to neutralize the effects of Russian aggression and related economic damages.

10. In this context, the study recommends a set of policy changes to utilize the potential of bioenergy products, including adopting legislative acts regarding development of biogas, liquid and solid biofuel markets, to increase the use of local renewable fuels and substitute fossil fuels. These recommendations will not only support the development of the bioenergy sector in Ukraine but also lay the foundation for the country's post-war reconstruction and economic growth.

Table
Barriers and possible solutions/recommendations for bioenergy sector development in Ukraine

Technology	*Identified Barriers*	*Possible solutions/recommendations*	*Responsible institution*
Biomethane/ biogas	• The Register for issuing Guarantee of Origin has not yet been operational; mechanism for issuing a guarantee of origin for biomethane in transport has not been implemented. • Absence of state goals and obligations regarding the share of biomethane use in transport. • Absence of legislation supporting for biomethane producers to connect the gas distribution system (GDS). • Lack of legislation providing incentives for the use of biomethane in the transport and agricultural sectors. • Lack of regulations on technical requirements for the use of biomethane as motor fuel in transport. • Difficulties of biomethane transportation and natural gas export limitations due to Martial law in Ukraine.	• Implementation of the biomethane Register[1]. • Development of regulatory support schemes for biomethane usage in transport and agriculture. • Regulatory adjustment of GDS with the integration of consumers into larger consumption clusters, determine network operators to create conditions to receive the reverse flow of biomethane. • Inclusion of biomethane consumption goals (5-10 per cent of natural gas consumption in transport by 2030) in the National Energy Strategy and National Renewable Energy Action Plan, as well as goals for the number of gas filling stations. • Development of technical requirements for the use of biomethane as motor fuel (CNG i LNG). • Ensure the possibility to obtain a guarantee of origin without connecting a biomethane producer to GTS or GDS. • Develop support mechanism enabling export of biomethane.	• Ministry of Energy • Ministry of Infrastructure, State Agency on Energy Efficiency and Energy Saving of Ukraine • Ministry of Agrarian Policy and Food • Ministry of Economy
Bioethanol	• There is no regulation for mandatory share of bioethanol in gasoline. • Lack of technical regulations for alternative fuel with a bioethanol	• Adoption of the draft law on mandatory share of bioethanol in gasoline and the development of the liquid biofuels market. • Create regulatory environment for the	• Ministry of Infrastructure, State Agency on Energy Efficiency and Energy Saving of Ukraine

[1] Currently being developed by SAEE, according to the Government Resolution on approval of the Procedure for the Register of Biomethane No. 823, the launch of the Register is planned in 2023

Technology	*Identified Barriers*	*Possible solutions/recommendations*	*Responsible institution*
	content of more than 10 per cent by volume to add about 85 per cent vehicles. • High excise tax rate on gasoline with a content of at least 5 per cent by weight of bioethanol – 100 EUR per 1000 litres. • Requirement for the full excise duty rate tax bill for the transportation of bioethanol.	increase of mandatory share up to 10 per cent for the existing engines and up to 50-85 per cent for flexible fuel vehicles in future. • Reduction or cancellation of excise tax on gasoline with a content of at least 5 per cent by weight of bioethanol. • Consider introduction of incentives for importing flexible fuel vehicles that can use up to 85 per cent of bioethanol as fuel. • Mitigate requirements for the full excise duty rate tax bill for bioethanol transportation.	• Ministry of Agrarian Policy and Food
Biodiesel	• High rate of excise tax on biodiesel and its blends – 100 EUR per 1000 litres. • Lack of support for alternative fuel with a biodiesel content of more than 7 per cent by volume. • There is no requirement for a mandatory share of biodiesel in diesel fuel. • There is no export duty on rapeseed. This reduces incentives to process rapeseed inside of the country. • There are no regulations and stimulus for the collection of used cooking oil that can be used for the production of biodiesel.	• Reduction or cancellation of the excise tax on biodiesel and its blends. • Development and adoption of technical regulations for alternative diesel fuel with a biodiesel content of more than 7 per cent by volume. • Introduce mandatory share of biodiesel in diesel fuel at the level of 5 per cent. • Introduce an export duty on rapeseed (10 per cent of the product customs value) similar to the existing duty on flax, sunflower and camelina seeds. • Ensure gradual transition to the production and consumption of hydrotreated vegetable oil (HVO), which is a complete analogue of diesel fuel and can be used up to 100 per cent in diesel engines. • Develop legislation creating incentives for the collection of used cooking oils.	• Ministry of Infrastructure, State Agency on Energy Efficiency and Energy Saving of Ukraine • Ministry of Agrarian Policy and Food
Solid	• The need for biomass and biogas boiler	• To exempt installations that burn solid	• Ministry of Infrastructure,

Technology	*Identified Barriers*	*Possible solutions/recommendations*	*Responsible institution*
biomass	plants, CHP plants/TPPs to pay obligatory CO_2 emissions tax. • Lack of regulations on the management of felling forest residues. • Lack of incentives for the production of heat from solid biomass for population due to subsidized natural gas tariffs. • Absence of a biomass exchange in Ukraine. • Monopoly of the district heating operators and lack of incentives for independent producers to access heat networks. • Absence of the “energy crops” definition in Ukrainian legislation. • Expensive and short-term land lease agreements for the cultivation of energy crops. • Imperfect land auctions procedure for land leases to cultivate energy crops. • Production of electricity from biomass is not supported by the mechanism of guarantees of origin. • Absence of auctions for the allocation of state support for bioenergy projects. • Lack of balancing capacities and electricity storage systems to balance the energy system with a high proportion of renewable energy sources.	biofuel and biogas from CO_2 emissions tax. • Elaborate regulations in the Forest Code on the prohibition of the burning of felling residues in the forest, obligation of forestry enterprises to clear felling site, simplification of the access of third parties to felling residues. • Development of regulatory incentives for population to produce heat from solid biomass. • Introduction of the centralized electronic system for biomass trading (biomass exchange). • Development of legislation supporting competitive heat energy market and ensuring non-discriminatory access for independent producers to the heat networks. • Introduce a definition of "energy crops" into legislation of Ukraine. • Regulatory extension of the land lease agreement terms for the cultivation of energy crops up to 20 years (currently it is maximum 7 years). Limit the maximum land lease payments for unproductive and degraded land on which energy crops are grown to 5 per cent of the normative monetary value. • Introduce change to legislation simplifying the lease of unproductive land for the cultivation of energy crops – without holding land auctions. • Development and implementation of a mechanism of guarantees of origin for	State Agency on Energy Efficiency and Energy Saving of Ukraine • Ministry of Energy

Technology	*Identified Barriers*	*Possible solutions/recommendations*	*Responsible institution*
		electricity produced from biomass. • Launch implementation of state support auctions to produce electricity from biomass. • Start of auctions for balancing capacities and electricity storage systems.	