



**POLICY RECOMMENDATIONS:
EXISTING BARRIERS AND POSSIBLE SOLUTIONS
TO SUPPORT BIOFUELS MARKET DEVELOPMENT IN UKRAINE**
(draft for discussion)

*Summary as seen from the market stakeholders point-of-view
for the Ukrainian Government & International Donors*

Introduction

The document is developed 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 (UNECE) jointly with Food and Agriculture Organization (FAO) and the United Nations Environment Programme (UNEP).

As part of this project, there is being 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.

This work 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.

Overview

One of the objectives is to discuss possible recommendations at **Multistakeholder Dialogue – “Untapped Bioenergy Potential of Ukraine: Issues of Energy Security and Food Security” (Kyiv, 31st of March 2023)** for developing a strategy on the production and use of bioenergy resources, in particular biomethane, bioethanol, biodiesel and solid biomass.

The dialogue among key stakeholders will include the identification of possible priorities to achieve food security and accomplish relevant Sustainable Development Goals. The dialogue also may serve as a platform for the exchange of information on existing approaches, challenges, and perspectives to the further development of bioenergy sector in Ukraine.

As a result of discussions held, the amended recommendations would be considered for the final agreed conclusions of the Multistakeholder Dialogue and forwarded to relevant governmental bodies of Ukraine.

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.

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.

| Technology | Identified Barriers | Possible solutions/recommendations | Responsible institution |
|--------------------------|--|---|---|
| Biomethane/biogas | <ul style="list-style-type: none"> • 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. • Due to Martial law in Ukraine, there are natural gas export limitations. | <ul style="list-style-type: none"> • Implementation of the biomethane Register¹. • 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. | <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> • There is no regulation for mandatory share of bioethanol in gasoline. • Lack of technical regulations for alternative fuel with a bioethanol 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. | <ul style="list-style-type: none"> • 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 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. | <ul style="list-style-type: none"> • Ministry of Infrastructure, State Agency on Energy Efficiency and Energy Saving of Ukraine • Ministry of Agrarian Policy and Food |

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| <p style="text-align: center;">Biodiesel</p> | <ul style="list-style-type: none"> • 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. | <ul style="list-style-type: none"> • 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. | <ul style="list-style-type: none"> • Ministry of Infrastructure, State Agency on Energy Efficiency and Energy Saving of Ukraine • Ministry of Agrarian Policy and Food |
| <p style="text-align: center;">Solid biomass</p> | <ul style="list-style-type: none"> • The need for biomass and biogas boiler plants, CHP plants/TPPs to pay obligatory CO₂ 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. | <ul style="list-style-type: none"> • To exempt installations that burn solid biofuel and biogas from CO₂ 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 | <ul style="list-style-type: none"> • Ministry of Infrastructure, State Agency on Energy Efficiency and Energy Saving of Ukraine • Ministry of Energy |

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| | <ul style="list-style-type: none"> • 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. | <p>energy crops are grown to 5 per cent of the normative monetary value.</p> <ul style="list-style-type: none"> • 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 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. | |
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 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

Estimated potential of Ukraine's bioenergy sector ²

| <i>Technology</i> | <i>Current volumes of production (2021) *</i> | <i>Development potential 2035</i> | <i>Investment potential 2035, B Euro 2050, B Euro (long term scenario)</i> |
|--------------------------|--|--|--|
| Biomethane/biogas | 150 mln m ³ CH ₄ (biogas) 125 ktoe (biogas) | 2012 mln m ³ (biomethane) 1719 ktoe (biomethane) | 4.0-5.4 33-44 |
| Bioethanol | 81.1 kt (2020) 51.1 ktoe (2020) | 555 kt 350 ktoe | 0.87 3.9 |
| Biodiesel | - | 322 kt 300 ktoe | 0.62 2.3 |
| Solid biomass | 16.2 Mt 4.2 Mtoe | 37.1 Mt 10.1 Mtoe | 10.3 16.4 |

² Estimates according to the basic modelling scenario, with the support of 100RE-UA and UABIO

* Units of use and toe (tons of oil equivalent: ktoe – thousand, Mtoe – million)