BIOPLAT-EU

Promoting sustainable use of underutilized lands for bioenergy production through a web-based Platform for Europe

D5.3

Report on workshops for public and private landowners

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 818083.

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01	16/09/2021	Draft version	All
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Table of Contents

1 Objectives

The main objective of the workshops is to promote the efficacy and profitability of using MUC land for sustainable bioenergy production especially to public and private landowners and farmers. The webGIS tool that was developed within the project will be an integral part of the workshop where its functionalities will be demonstrated on specific case studies in the regions where the workshops are implemented.

2 Workshop in Spree-Neiße, Germany

2.1 Introduction

In addition to the presentation of the project and the tool, the workshop addressed the production and energetic use of woody biomass in the South Brandenburg region with a focus on MUC areas, like lignite mining reclamation sites.

The workshop was held on 08/09/2021 in Gut Geisendorf, Neupetershain (see figure below). Fifteen people participated. Besides the members of the working group, various stakeholders were present. Strongly represented was the science group, but there was at least one representative from landowners, farmers, and industry and government agencies (see Table below).

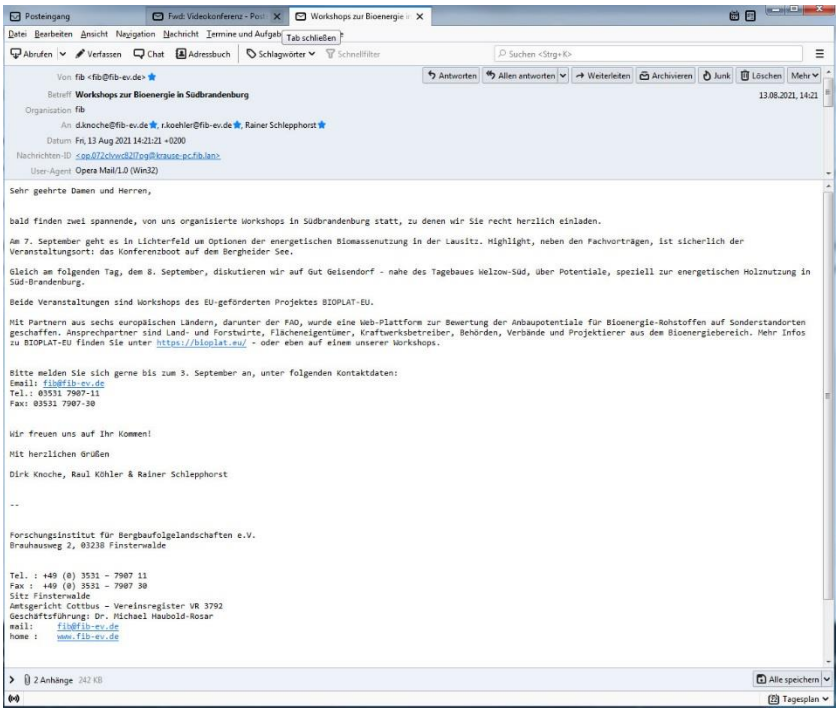
Registering for the workshop in Gut Geisendorf, Neupetershain

Participants of the workshop in Neupetershain

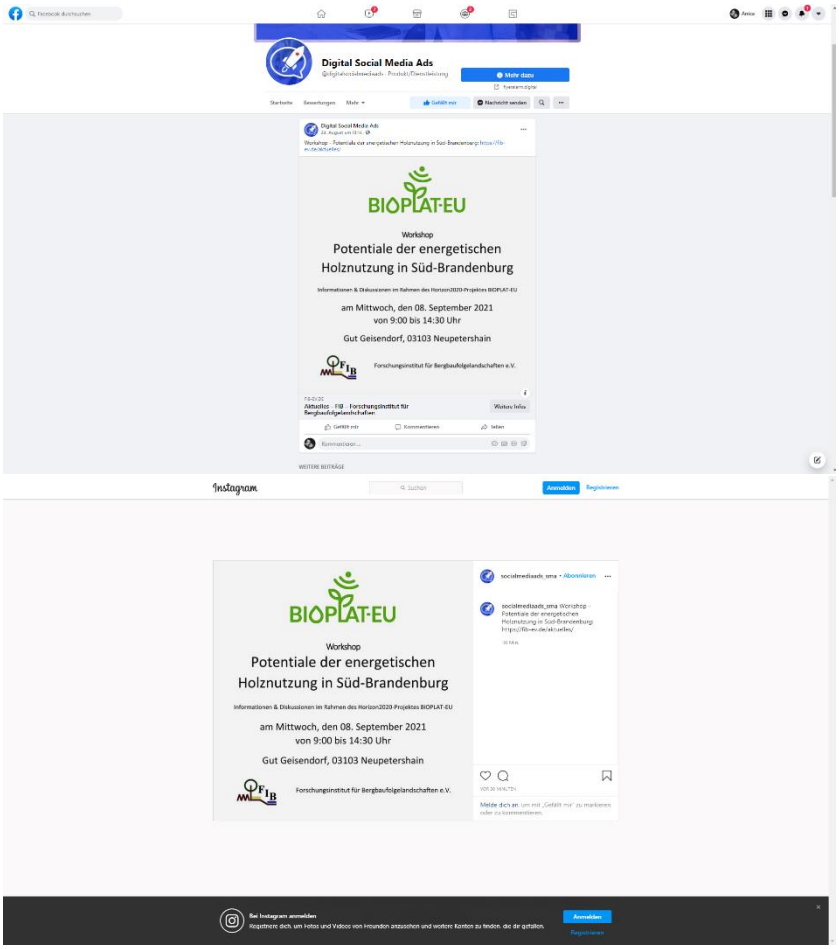
Participant name	Organisation	Stakeholder category
Bashutska, Uljana	UNFU (Ukraine)	Researcher
Böhm, Christian	Agroforestry Association	Consultant, Researcher
Delbrügge, Julian	Institut für Lebensmittel- und Umweltforschung e.V.	Researcher
Glässer, Malte	Ministerium für Landwirtschaft, Umwelt und Klimaschutz des Landes Brandenburg	Authorities
Grundmann, Jan	Energy Crops GmbH / Vattenfall	Industry, biomass supplier, SRC management
Hennischen, Josi	FIB/Landwirtschaftbetrieb	Researcher, Farmer
Knoche, Dirk	FIB	Researcher
Köhler, Raul	FIB	Researcher
Lange, Christian	FIB	Researcher
Laumen, Siegfried	LEAG (Land Management)	Industry, land owner, investor, Land use planning, monitoring
Schillem, Steffi	BTU Cottbus-Senftenberg	Researcher
Schlepphorst, Rainer	FIB	Researcher
Schraplau, Rüdiger	FIB	Researcher
Vogler, Dieter	Ing.büro Vogler – Energie und Versorgungstechnik	Consultant
Wittler, Pauline	FIB	Researcher

2.2 Invitation

99 persons were invited by email of which 18 were farmers or landowners. Additionally, persons were addressed personally by calls or during events such as the 17th Brandenburg Energy Wood Day (17. Brandenburger Energieholztag) at the Museumsscheune in Felixsee on 26/08/2021. A flyer was created and distributed on the FIB webpage, on events and in social media (facebook, Instagram, seefigure below). The evaluation of the promotion campaign showed that over 21,000 advertisements were achieved.



Invitation email sent to 99 persons



screenshot of announcement on social media (facebook, instagram)

2.3 Agenda

Besides the presentation of the BIOPLAT-EU project and the live demonstration of the webGIS tool, regional representatives of associations and farmers presented their experience with bioenergy in the region. Furthermore, scientific contributions on the cultivation of bioenergy crops, especially woody biomass, were shown.

Afterwards, a forum was held to discuss the usability of the tool and to discuss barriers to bioenergy use.

BIOPLAT-EU

Workshop

Potentiale der energetischen Holznutzung in Süd-Brandenburg

Informationen & Diskussionen im Rahmen des Horizon2020-Projektes BIOPLAT-EU

am Mittwoch, den 08. September 2021
von 9:00 bis 14:30 Uhr

Gut Geisendorf
03103 Neupetershain

Anmeldung bis 03. September 2021 an FIB:

Email: fib@fib-ev.de

Tel.: 03531 7907-11

Fax: 03531 7907-30

Forschungsinstitut für Bergbaufolgelandschaften e.V.

Brauhausweg 2
03238 Finsterwalde
https://fib-ev.de/

Programm

09:00 Uhr	Anmeldung	
09:30 Uhr	Begrüßung & Moderation	Dr. Dirk Knoche (FIB e.V.)
09:40 Uhr	Das Projekt BIOPLAT-EU – „Promoting sustainable use of underutilized lands for bioenergy production through a web-based platform for Europe“	Rainer Schlepphorst (FIB e.V.)
10:00 Uhr	Kurzumtriebsplantagen auf Sonderstandorten	Dr. Jan Grundmann (Energy Crops GmbH)
10:30 Uhr	Ertragsleistung & Stresstoleranz der Robinie – Anbau-und Sortenversuch Welzow-Süd	Dr. Christian Lange (FIB e.V.)
11:00 Uhr	Kaffeepause	
11:30 Uhr	Agroforstwirtschaft im Kontext der energetischen Holznutzung	Dr. Christian Böhm (BTU CB, DeFAF e.V.)
12:00 Uhr	BIOPLAT-EU - Ein Online-Werkzeug zur Nachhaltigkeitsbewertung der energetischen Nutzung von Biomasse auf Sonderstandorten	Raul Köhler (FIB e.V.)
12:30 Uhr	Mittagspause	
13:00 Uhr	Forum I: Feedback zum BIOPLAT-EU webGIS-Werkzeug	
13:30 Uhr	Forum II: Diskussion zu politischen und rechtlichen Hürden energetischer Biomassenutzung auf Sonderstandorten	
14:00 Uhr	Zusammenfassung & Abschließende Diskussion	

Dieses Projekt wird im Rahmen des HORIZON 2020 Forschungs- und Innovationsprogramms der Europäischen Union finanziell gefördert (Zuwendungsvereinbarung Nr. 818083).

Agenda of the workshop in Neupetershain

2.4 Summary of presentations and discussions

The order of the presentations had to be adjusted on site, as there were scheduling overlaps of the presenters. Regardless of this, there was an intense and fruitful discussion on various bioenergy topics.

Thus, Siegfried Laumen from LEAG started with an overview presentation on the history of the post-mining landscape and the usage of reclaimed landscapes in the Welzow-Süd open pit mine.

Moderation after the presentation of Mr. Laumen (LEAG)

Christian Böhm's presentation highlighted current issues with agricultural subsidies and supported the increased use of agroforestry systems.
In addition to the energetic use of woody biomass, cascade use is also referred to. It is also important to carry out a prior soil investigation of the site in order to minimize yield reductions. The issue of water competition between tree lines and crops was also discussed, pointing out the need to educate the tree root by plowing to go deeper into the ground and to not compete with the annual crops between the tree rows. The question of the efficiency of the systems was raised: on marginal sites, it is economically viable, whereas on vigorous sites, ecological benefits, such as erosion control, predominate.

Presentation of Christian Böhm (BTU/DeFAF e.V.) on the subject of agrofrestry systems

Christian Lange (FIB) showed the potential of black locust on reclamation sites. His presentation gives results of clone testing and recommends different Robinia clones for cultivation in Lusatia. One problem is that the knowledge and recommendations found in science are not put into practice quickly enough. Thus, the recommended robinia variants are not available in any nursery in the region.

Presentation of Mr. Lange (FIB) on the subject of the vitality of black locust clones on lignite mining reclamation sites in Spree-Neiße

Jan Grundmann (Energy crops GmbH) presented an overview of short rotation coppices in the region and then went into more detail about the challenges on special sites such as brownfields, abandoned industrial sites, sewage irrigation fields and forest under power lines.
When asked about the energy trend, he expects renewable energy to account for 40% of district heating by 2030. Thus, the need for land for the provision of biomass will increase. When asked if longer-term contracts with farmers are planned and how fluctuations in the timber market are handled, he responded that agricultural contract farming model is being targeted instead of leasing. Landowners are compensated for providing the land and soil preparation and maintenance during the establishment phase, not for biomass. The farmer can expect between 220 and 280 euros per hectare, depending on the site quality. In addition, farmers are still eligible for subsidy payments. This kind of contract represents a low-risk alternative to other uses, because Energy Crops GmbH is part of the reliable Vattenfall group. Mr. Grundmann sees short rotation coppices competing with contract farming with corn in the future.

In the next part of the workshop, Rainer Schlepphorst (FIB) introduced the EU project BIOPLAT-EU. The overall objective of the project is to promote the market uptake of sustainable bioenergy in Europe. The focus is on the production of (non-food) biomass on marginal, underutilised and contaminated land.
The main issue discussed was land competition and low land availability not only in the case study region but also throughout the region. The dependence of the acceptance for bioenergy crop cultivation on biomass prices was also pointed out. The wood market is oversaturated

after several years of oversupply, which reduces the profitability of cultivation of woody biomass.

Rainer Schlepphorst (FIB) then gave a live demonstration of the webGIS tool use. He showed selected potential bioenergy utilization chains in the case study region, the reclamation areas of lignite mining in the district of Spree-Neiße.
During the discussion, it was highlighted that the webGIS tool can be used for searching MUC areas, analysing different bioenergy pathways, and evaluation of measures regarding sustainability. The tool could be interesting for the planning of processing chains, since, for example, the transport distances between the harvest area and the processing plant are often too long. The BIOPLAT-EU web platform with the webGIS tool was also assessed as a possible helpful search tool for alternative biomass processing plants. A suggestion for improvement pointed out that it would be good if the capacity of biomass plants will be included in the webGIS tool. On the other hand, the suitability map for crop cultivation map was not considered suitable to test other value chains. The baseline values differ too much from local experience. In addition, some input parameters of the value chain, e.g. fertilizer amounts, do not correspond to the local experience, although a registered user can adapt directly. If the CO_2 trade is more important, the tool can be a good basis for evaluation of sustainability and certification. Questions were asked about further maintenance and expansion of the tool, with an open-source model as a suggestion.

2.5 Conclusions

Among other topics, the workshop discussed the trend of bioenergy use in the region. Thus, the provision of energy from biomass remains a key factor in the region, even if the competition for land is very high. However, hardly any additional land is available; the focus is primarily on land that is already in use. In addition, the low biomass prices currently prevent a greater dissemination and acceptance of bioenergy from biomass. Nevertheless, there are alternative contract farming models, e.g. from Energy Crops GmbH, which could be a low-risk option cultivating energy crops. Possibly, an opportunity arises through the conversion of the subsidy (EEG) to CO_2 trading. One hopeful sign is the upcoming consideration of areas cultivated with tree stripes in agroforestry systems as eligible area for farm payments.

The webGIS tool was also discussed intensively. A possible use was seen at authorities, above all. Farmers and small landowners, on the other hand, are more likely to rely on their expertise or local consulting services. Improvements to the tool are needed to raise acceptance in the region. This includes e.g. the extension of the capacity data of the biomass processing plants as well as the adjustment of the basic values for yields but also for input data such as fertilizer use.

3 Workshop in Dahme-Spreewald, Germany

3.1 Introduction

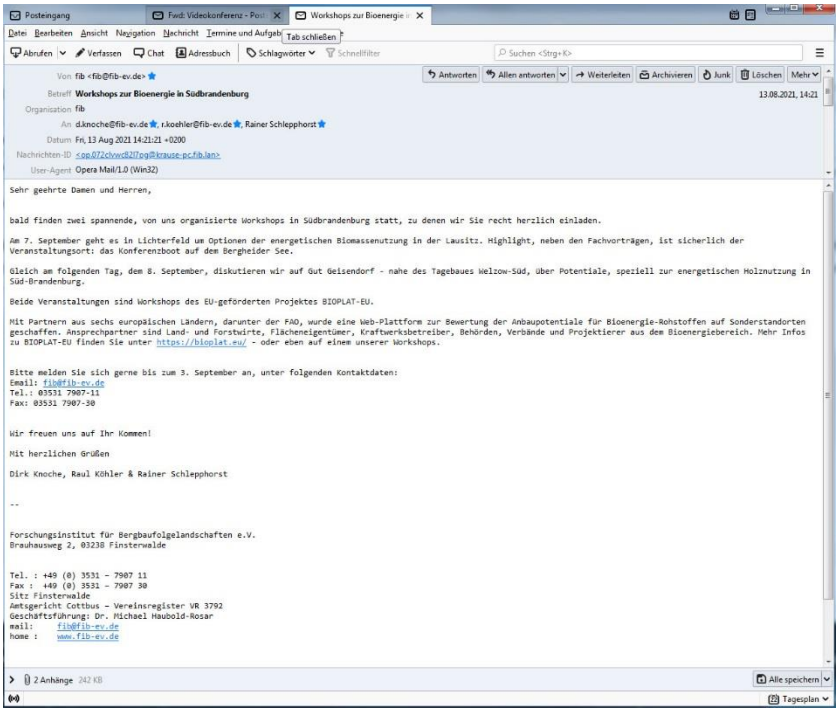
In addition to the presentation of the project and the tool, the workshop addressed the production and energetic use of biomass in the Lusatian region with a focus on MUC areas, like marginal agricultural land, sewage irrigation fields or forests under power lines.

The workshop was held on 07/09/2021 in Lichterfeld. Seventeen people participated the event. Besides the members of the working group, various stakeholders were present (see the table below).

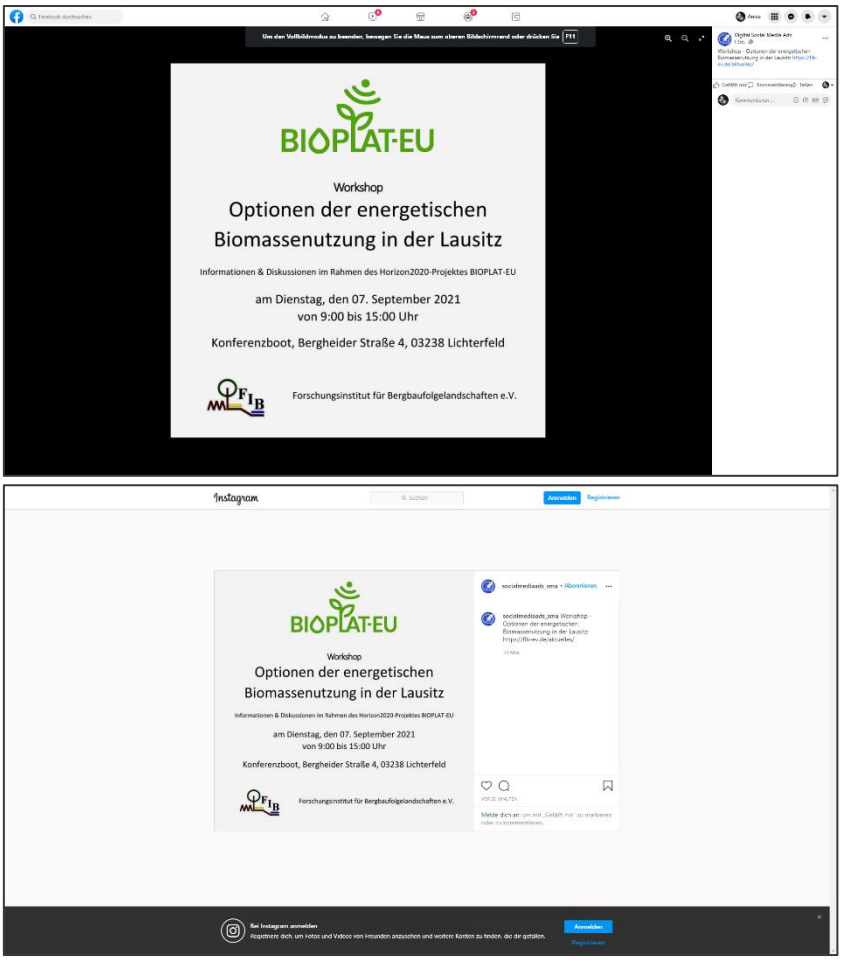
Participant name	Organisation	Stakeholder category
Bashutska, Uljana	UNFU (Ukraine)	Researcher
Blossey, Sabine	Ministerium für Landwirtschaft, Umwelt und Klimaschutz des Landes Brandenburg (MLUK)	Authorities
Delbrügge, Julian	Institut für Lebensmittel- und Umweltforschung e.V.	Researcher
Domin, Thomas	Landwirtschaftsbetrieb Domin, Dachverband Agroforst (DeFAF e.V.)	Farmer, land owner
Glässer, Malte	Ministerium für Landwirtschaft, Umwelt und Klimaschutz des Landes Brandenburg (MLUK)	Authorities
Hampel, Gerd	Biogas Association	Consultant
Hennischen, Josi	FIB/Landwirtschaftbetrieb	Researcher, Farmer
Knoche, Dirk	FIB	Researcher
Köhler, Raul	FIB	Researcher
Krüger, Holger	Amt Schlieben, Klimaschutzmanager, Bauverwaltung	Authorities
Lange, Christian	FIB	Researcher
Lindner, Gerd	FIB	Land owner
Münster, Sabine	Landkreis Elbe-Elster, Strukturentwicklung, Kultur und Marketing	Authorities
Rademacher, Anne	Landwirtschaftsbetrieb Rademacher	Farmer, land owner
Schillem, Steffi	BTU Cottbus-Senftenberg	Researcher
Schlepphorst, Rainer	FIB	Researcher
Vogler, Dieter	Ing.büro Vogler – Energie und Versorgungstechnik	Consultant

3.2 Invitation

99 persons were invited by email, of which 18 were regional farmers or landowners (see example in the figure below). Additionally, persons were addressed personally by calls or during events such as the Brandenburg Energy Wood Day (17. Brandenburger Energieholztag) at the Museumsscheune in Felixsee at 26.08.2021. A flyer was created and distributed on the FIB webpage, on events and in social media (facebook, Instagram, see **Fehler! Verweisquelle konnte nicht gefunden werden.**). The evaluation of the promotion campaign showed that over 20,250 advertisements were achieved for this event.



Invitation email sent to 99 persons



Screenshot of announcement in social media (facebook, instagram)

3.3 Agenda

Besides the presentation of the BIOPLAT-EU project and the live demonstration of the webGIS tool, regional representatives of associations and farmers presented their experience with bioenergy in the region. A representative of the Ministry of Agriculture, Environment and Climate Protection gave an interesting insight into the current bioeconomy strategy of the state of Brandenburg.

Afterwards, a forum was held to discuss the usability of the tool and to discuss barriers to bioenergy use.

BIOPLAT-EU

Workshop

Optionen der energetischen Biomassenutzung in der Lausitz

Informationen & Diskussionen im Rahmen des Horizon2020-Projektes BIOPLAT-EU

am Dienstag, den 07. September 2021
von 9:00 bis 15:00 Uhr

Konferenzboot
Bergheider Straße 4
03238 Lichterfeld

Anmeldung bis 03. September 2021 an FIB:
Email: fib@fib-ev.de
Tel.: 03531 7907-11
Fax: 03531 7907-30

Forschungsinstitut für Bergbaufolgelandschaften e.V.

Brauhausweg 2
03238 Finsterwalde
https://fib-ev.de/

Programm

09:00 Uhr	Anmeldung	
09:30 Uhr	Begrüßung & Moderation	Dr. Dirk Knoche (FIB e.V.)
09:40 Uhr	Das Projekt BIOPLAT-EU – „Promoting sustainable use of underutilized lands for bioenergy production through a web-based platform for Europe“	Dr. Raul Köhler (FIB e.V.)
09:55 Uhr	Überblick der Bioenergienutzung in Brandenburg	Sabine Blossey (MLUK)
10:25 Uhr	EEG 2021 – Chancen und Herausforderungen für Biogasanlagenbetreiber	Ingo Baumstark (Fachverband Biogas)
10:55 Uhr	Kaffeepause	
11:30 Uhr	Agroforst-Systeme – Erfahrungen aus der Praxis	Thomas Domin (DeFAF e.V.)
12:00 Uhr	BIOPLAT-EU - Ein Online-Werkzeug zur Nachhaltigkeitsbewertung der energetischen Nutzung von Biomasse auf Sonderstandorten	Rainer Schlepphorst (FIB e.V.)
12:30 Uhr	Mittagspause	
13:30 Uhr	Forum I: Feedback zum BIOPLAT-EU webGIS-Werkzeug	
	Forum II: Diskussion der politischen und rechtlichen Hürden energetischer Biomassenutzung auf marginalen und kontaminierten Standorten	
14:00 Uhr	Zusammenfassung & Abschließende Diskussion	
14:30 Uhr	Gemeinsame Fahrt mit dem Konferenzboot „Aquaforum“ über den Bergheider See	

Dieses Projekt wird im Rahmen des HORIZON 2020 Forschungs- und Innovationsprogramms der Europäischen Union finanziell gefördert (Zuwendungsvereinbarung Nr. 818083).

Agenda of the workshop in Lichterfeld

3.4 Summary of presentations and discussions

Regardless of this, there was an intense and fruitful discussion on various bioenergy topics.

In a brief presentation, Raul Köhler (FIB) introduced the EU project BIOPLAT-EU, funded within the framework of Horizon2020. The overall objective of the project is to promote the market acceptance of sustainable bioenergy in Europe. The focus is on the production of (non-food) biomass on marginal, unused and contaminated land. The core task of the project is the development of a web-based decision support tool - an internet platform with integrated WebGIS - to assess the environmental, social and techno-economic sustainability of bioenergy use.

The problem of disposal of ash from biomass growing on contaminated land was discussed. The

effort and cost of testing the ash is too expensive, so in practice this ash is treated as hazardous waste.

Next, Sabine Blossey (MLUK) gave an overview of the energy strategy of the state of Brandenburg.
Here, on the one hand, the envisaged cascade use of biomass (material use before energy use) was addressed. One important objective is to avoid using any more land for bioenergy production. Furthermore, in the state of Brandenburg, policy makers are developing no further biomass strategies, but only bioeconomy strategies. Due to reduced subsidies, energy production from biomass will be lower in the future. However, the question was raised how the electricity demand will then be covered. One possibility is seen in increasing the efficiency of biogas production. Biomethane production will also become more important in the future, also due to the increasing demand in the transport sector (gas-powered buses, trucks). The use of bio-char for soil compaction on marginal land was seen as a potentially promising approach. Bio-char can be produced from agricultural feedstock or bio-waste, for example.

Sabine Blossey (MLUK) presents the focus of the state government with regard to bioenergy

In the next session, Gerd Hampel (representative of the Biogas Association) explained the new Renewable Energy Sources Act (EEG 2021) and its impact on farmers in Brandenburg.
He pointed out that in the case of biogas plants, the operator is legally obligated to keep the plant up to the state of the art. A permit to upgrade an outdated system costs between 30,000 and 60,000 euros. Thus, it can be assumed that many existing biogas plants, which have expired their subsidy period, will be discontinued in the next few years. The electricity feed-in tariff under the new EEG is not a sufficient financial incentive for the construction of new plants. At the moment, about 17% of the gross value added of Brandenburg's agriculture is bioenergy,

but there is a risk that the biomass sector will continue to decrease. Prognoses show only 30-40% of the current energy production from biomass in the future. A great potential is seen in the optimization and new construction of modern biogas plants, but this has so far been politically rejected at the federal level. Other topics addressed were the shortage of qualified personnel in the biogas plant construction sector and the high costs of operating regional gas networks. It was suggested that more long-term crop trials with different crop types be conducted to provide more reliable data for total cost calculations of bioenergy production.

Audience during the presentation of Mr. Hampel (Biogas Association)

Thomas Domin's showed his experience with agroforestry systems on his farm, pointing out economic and environmental benefits.
With poplar he achieves yields around 8 t per hectare and year. He closed his biogas plant and built a wood chip plant for heat production instead. Lower wind erosion and evaporation are important arguments for the agroforestry system. Water quality is higher in the forest zones, and water competition between trees and cereals hardly occurs due to different root depths. There are also legal barriers to the introduction of an agroforestry system: grassland must first be converted to cropland and then to short rotation coppices. In addition, a compensatory measure is mandatory with the conversion of arable land to grassland. Moreover, the forest strips must be at least 0.3 ha in size in order to be legally accepted. Furthermore, it was discussed which crops are particularly suitable for use in the agroforestry system.

Presentation by Mr. Domin (DeFAF e.V.) on the subject of agrofrestry systems

Rainer Schlepphorst (FIB) gave a live demonstration of the webGIS tool use. He showed selected potential bioenergy utilization chains in the case study region.
During the discussion, it was highlighted that the webGIS tool can be used for searching MUC areas, analysing different bioenergy pathways, and evaluation of measures regarding sustainability. People asked about the target audience of the webGIS tool. Certifiers (CO_2) could be also part of the potential target group. Farmers do not see themselves as the primary users, as they know their land and farming alternatives intensively and tend to rely on the expertise of local consultants or associations (farmers' association). The suitability map for crop cultivation map was intensively discussed, since the baseline values differ too much from local experience. The tool is promising at the European level, but of limited use at the local level, because the basis input data does not fit. However, all input parameters can be adjusted for the advanced user, which should allow a reliable evaluation of sustainability. The approach of the tool is good, but a main problem for biomass cultivation for bioenergy is the non-existence of unused land not only in the case study region but also in Germany. The tool is certainly valuable in other countries with a larger potential land area.

Discussion during break

3.5 Conclusions

Among other topics, the workshop discussed the trend of bioenergy use in the region. Thus, the provision of energy from biomass remains a key factor in the region, even if the competition for land is very high. In the state's bioeconomy strategy, biomass plays an important role in securing the future base load of energy supply. At the same time, many existing biogas plants will be discontinued in the next few years. Optimization (including upgrading to biomethane) and the construction of new plants, on the other hand, have a significant potential. However, hardly any additional land is available; the focus is primarily on land that is already in use.

The webGIS tool was discussed intensively, with a possible use at certifiers and authorities being seen above all. Farmers and small landowners, on the other hand, are more likely to rely on their expertise or local consulting services. Improvements to the tool are needed to raise acceptance in the region. This includes e.g. the adjustment of the basic values for yields.

4 Workshop in Bács-Kiskun and Csanád-Csongrád County, Hungary

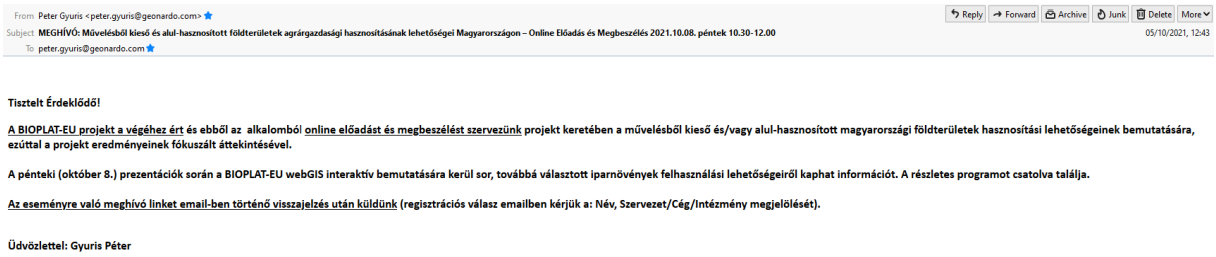
4.1 Introduction

The event was organised online in the framework of a Zoom meeting on 8 October 2021. Participants were invited through e-mail contacts, from the private agricultural and landowner sector as well as from the academy and policy making.

Participants:

- Virág Annamária (PANNON Pro Innovációs Kft. Project Manager)
- Becsákné Tornay Enikő (Research Institute of Agricultural Economics, Head of Department, Expert)
- Barna Kovács (Counsellor, BIOEAST Secretary General)
- Dr. Krisztina Miskó (Research Institute of Agricultural Economics, Researcher | Environmental Research Department)
- István Kulmányi (Research Institute of Agricultural Economics, Researcher | Sectoral Economics Research Department)

4.2 Invitation



From Peter Gyuris <peter.gyuris@geonardo.com>
Subject MEGHÍVÓ: Művelésből kieső és alul-hasznosított földterületek agrárgazdasági hasznosításának lehetőségei Magyarországon – Online Előadás és Megbeszélés 2021.10.08. péntek 10.30-12.00
To peter.gyuris@geonardo.com

Reply | Forward | Archive | Junk | Delete | More

05/10/2021, 12:43

Tisztelt Érdeklődő!

A BIOPLAT-EU projekt a végéhez ért és ebből az alkalomból online előadást és megbeszélést szervezünk projekt keretében a művelésből kieső és/vagy alul-hasznosított magyarországi földterületek hasznosítási lehetőségeinek bemutatására, ezúttal a projekt eredményeinek fókuszált áttekintésével.

A pénteki (október 8.) prezentációk során a BIOPLAT-EU webGIS interaktív bemutatására kerül sor, továbbá választott iparnövények felhasználási lehetőségeiről kaphat információt. A részletes programot csatolva találja.

Az eseményre való meghívó linket email-ben történő visszajelzés után küldünk (regisztrációs válasz emailben kérjük a: Név, Szervezet/Cég/Intézmény megjelölését).

Üdvözlettel: Gyuris Péter

4.3 Agenda

MEGHÍVÓ

Online Workshop a BIOPLAT-EU H2020 projekt (https://bioplat.eu/) keretében

Dátum: 2021. október 8., péntek délelőtt 10:30-12:00

Program

10:30 – 10:35 – Résztvevők bejelentkezése a ZOOM platformra

10:35 – 10:45 – A BIOPLAT-EU projekt rövid bemutatása

10:45 – 11:00 – A BIOPLAT-EU projekt online platform interaktív bemutatója

UN-FAO által fejlesztett metodológia alapján: iparnövény és értéklánc választása, társadalmi-környezeti indikátorok bemutatása

11:00 – 11:15 – Iparnövény(ek) feldolgozási/konverziós technológiájának bemutatása és gazdaságossági elemzésének ismertetése

11:15 – 12:00 – Interaktív megbeszélés

A rendezvénnyel kapcsolatos további információról a következő e-mail címen lehet érdeklődni: peter.gyuris@geonardo.com

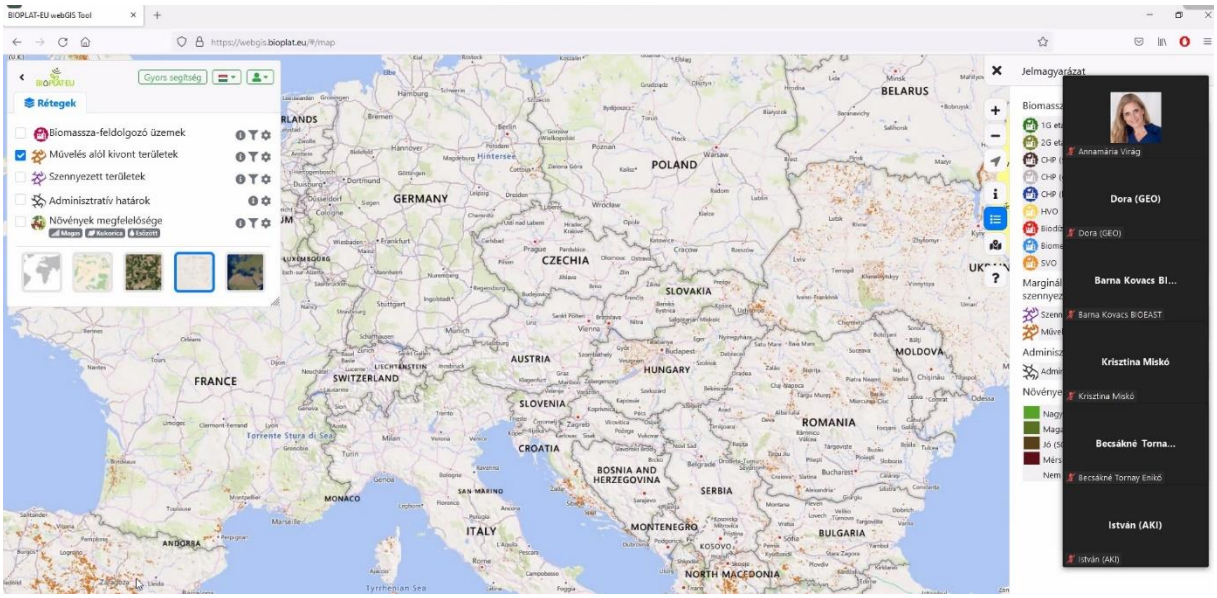
BIOPLAT-EU projekt partnerek

A BIOPLAT-EU projekt az Európai Unió támogatásával, a H2020 program társfinanszírozásával valósult meg. A kiadványban kifejtett nézetek kizárólag a szerzők véleményét tükrözik, és az Európai Bizottság nem vállal felelősséget az itt szereplő információk további felhasználásáért.

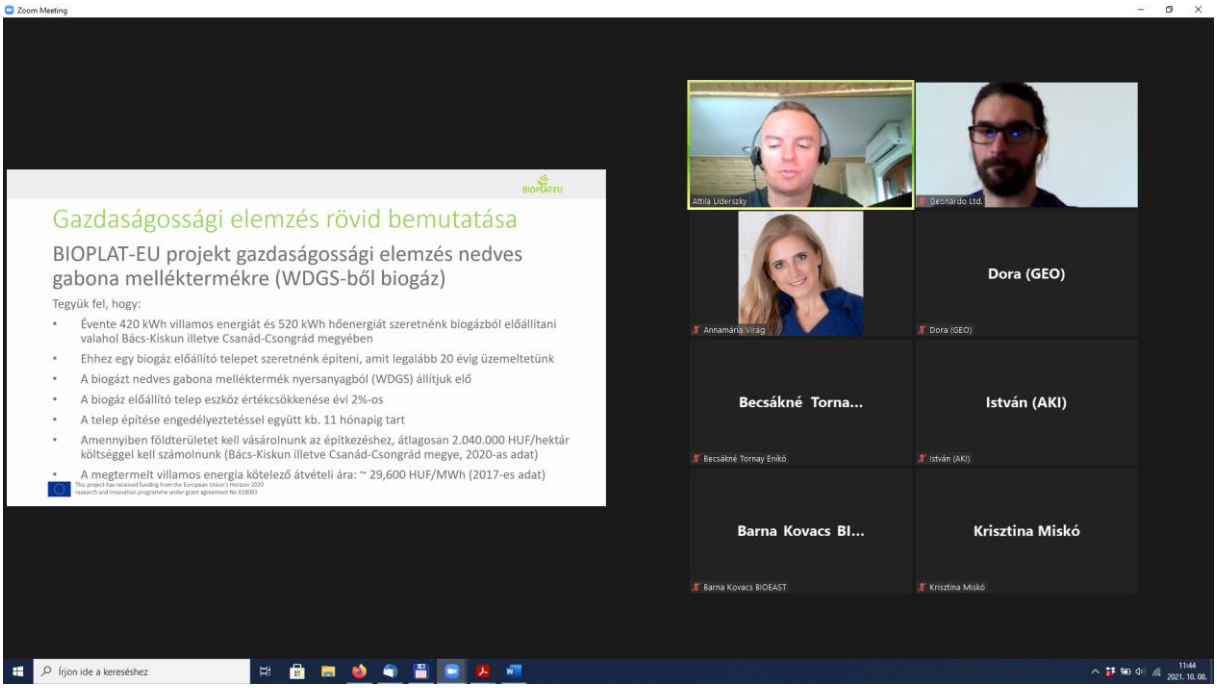
4.4 Summary of presentations and discussions

The first presentation introduced the project in general to the participants.

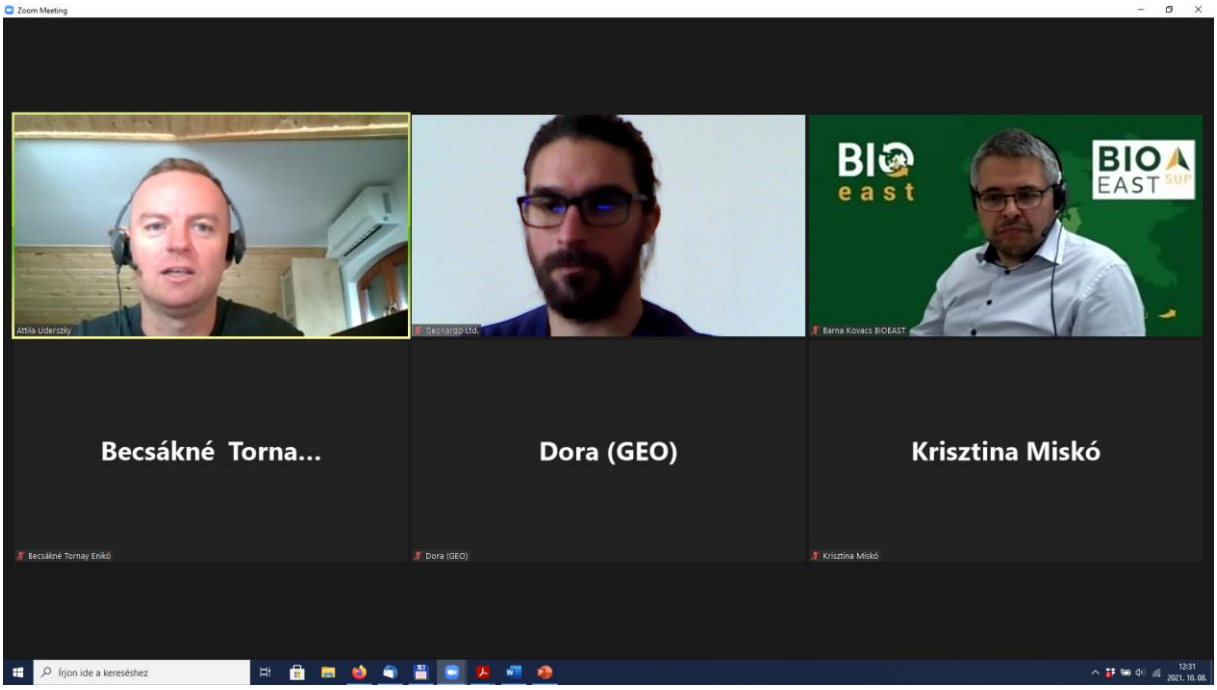
The second presentation showed the WebGIS tool in operation and provided a general understanding about the capabilities and features of the tool, with special attention to the FAO methodology with regards to different indicators.



The third presentation provided an overview of alternative cultivations and biomass value chains in Hungary based on oily crops and seeds and provided an extract from the business calculations performed by the project partner 1to3.



The workshop concluded with a question-and-answer session.



4.5 Conclusions

The following questions were discussed:

1. Becsákné Tornay Enikő (AgroEconomy Institute):

   Question 1: What is the main goal of the WebGIS tool that was developed?

Answer 1: The main goal was to provide a platform that can be used in a simple way by farmers, landowners and also investors who are interested in the exploitation of underutilised lands.

Question 2: Was the tool prepared with an objective so that more and more farmers can try to implement economical assessment for their value chains?

Answer 2: Indeed, this was one of the main motivations for the development of the tool

Question 3: Are you planning to extend and further specify the available data that the tool is taking int consideration?

Answer 3: Yes, we are planning to extend the bases of the available free data that the tool can use in the future, it has the option to further upgrade with additional data layers with higher resolution

Question 4: What is the long-term objective of the tool?

Answer 4: The long-term objective of the WebGIS Tool is to be the „go-to" platform for farmers and landowners who are considering a switch in their production value chain and also the ultimate objective is to attract investors and funding institutions and banks that are interested in financing biomass related RES projects,

Barna Kovács (representative from the BIOEAST project):

He noted that the utilisation of biomass for energy purposes is not always the best scenario in Hungary and also points out the importance of the soil quality. According to his opinion, unfortunately the soil quality was not investigated for decades in Hungary. It would be an important action to implement these methods into soil policies on EU level. Also, he thinks that focusing on Soil-Mission and soil quality could be the next evolution of BIOPLAT-EU.

5 Workshop in Sardinia, Italy

5.1 Introduction

The BIOPLAT-EU workshop to promote the efficacy and profitability of using MUC land for sustainable bioenergy production and to present to local stakeholders in Sardinia the web GIS tool was held on-line on 9 September 2020. The full list of registered participants in the workshop is reported in the table below.

Name and Surname	Affiliation	Role	Stakeholders category
Adriana Virdis	Agris (Agricultural Research Institute of the Regional Government of Sardinia)	Researcher	University/Research Institute
Angela Longo	Insitute for Agricultural development – Region of Sicily	Technical Assistance Officer	University/Research Institute
Antonio Di Cosimo	Bonollo Energia	AD	Bioeconomy/bioenergy entrepreneur
Balducchi Roberto	ENEA CR Trisaia	Research Officer. Resp. Lab. Bioproducts and Bioprocesses	University/Research Institute
Daniela Cuna	ENEA	Researcher	University/Research Institute
Daniele Manxa	Crea PB	Researcher	University/Research Institute
David Mastrecchia	Eni Spa	Manager	Representative of industrial consortium
Elisabetta Musso	CREA - Liguria	Researcher	University/Research Institute
Enrico Bonari	Scuola Superiore Sant'Anna Pisa	Full professor of Agronomy	University/Research Institute
Federica Floris	Crea-PB - Sardinia	Technologist	University/Research Institute
Gianluca Carboni	Agris Sardegna	Researcher - erbaceous cultivations	University/Research Institute
Ginevra Zolli	ITABIA	Member	Environmental association
Giuseppe Città	Institute for Agricultural Development	Technical assistance officer	University/Research Institute
Giuseppe Pulighe	CREA PB - Sardinia	Researcher	University/Research Institute

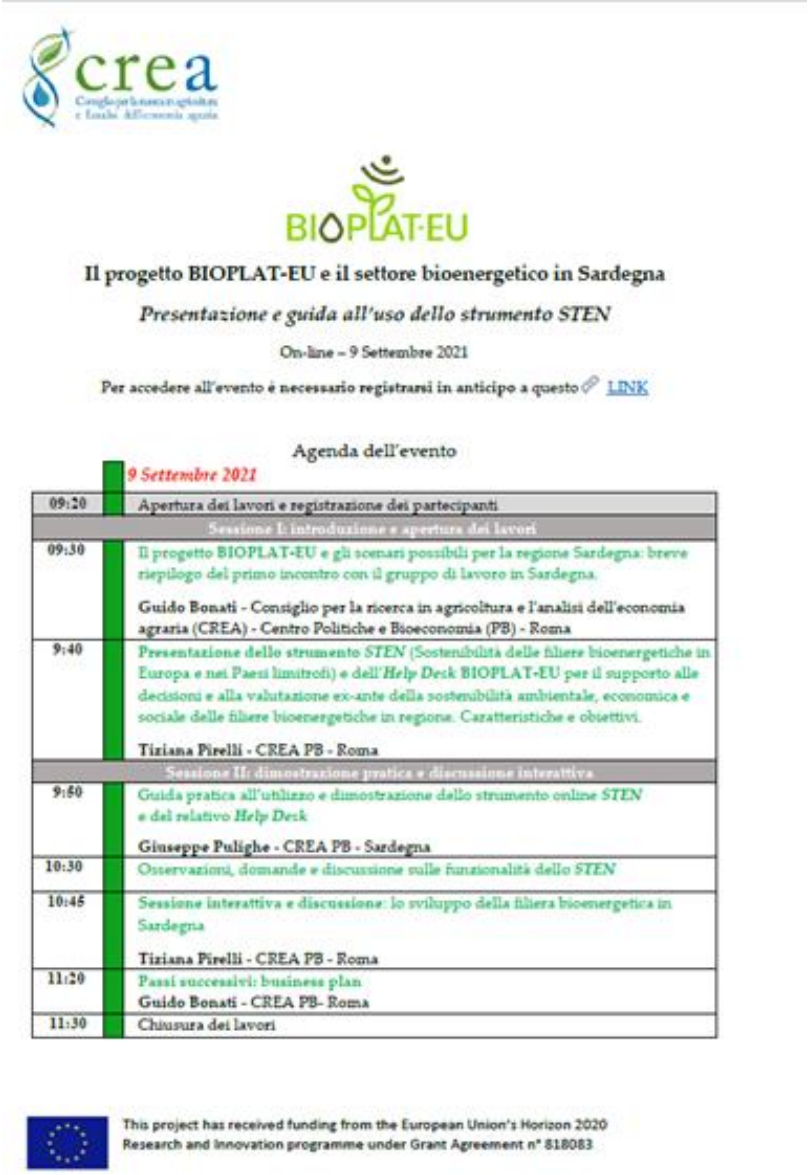
Giuseppina Costantini	CREA-PB - Basilicata	Officer Technologist	University/Research Institute
Guido Bonati	CREA-PB Headquarter	Dir. Technologist	University/Research Institute
Isabella DE BARI	ENEA	Responsible Biorefinery and green chemistry lab	University/Research Institute
Laura Mula	Dipartimento di Agraria - UNISS	Researcher	University/Research Institute
Leonardo Albano	National association of municipality authority (ANCI) - BASILICATA	Secretary	Representative of local authority
Leonardo Sulas	CNR ISPAAM	Researcher	University/Research Institute
Marco Rivano	Freelance	Freelance	Farmer/Biomass producer and Bioeconomy/bioenergy entrepreneur
Mario Cozzi	University of Basilicata (UNIBAS)	Full professor	University/Research Institute
Matteo Melillo	*La Tuscia University*	*Master Student*	Bioeconomy/bioenergy entrepreneur
Paolo Mulè	Agris Sardegna	Officer - Researcher	University/Research Institute
Pietro Todde	University of Sassari	PhD candidate	University/Research Institute
Riccardo Sangiorgi	Sardinia Bio Energy / Serramanna Energia	Renewable Energy Development	Bioeconomy/bioenergy entrepreneur
Sergio De Franchi	University of Basilicata (UNIBAS)	Full professor	University/Research Institute
Teresa Lettieri	CREA-PB	Technologist	University/Research Institute
Tiziana Pirelli	CREA-PB	Researcher	University/Research Institute
Yulia Kiryakova	FEEM	Researcher	University/Research Institute

5.2 Invitation

The agenda of the event was sent via email to a pre-selected list of stakeholders identified in Sardinia, among which the members of the BIOPLAT-EU local working group, established at the beginning of the project and involved in the first workshop held in person, in Cagliari, on 15 September 2020. Beyond the member of the above-mentioned working group, the email

invitation was extended also to other stakeholders, such as representative of public authorities, national industrial companies (e.g. ENI), and private and public landowners identified during the course of the project. Furthermore, the event was spread to the wide public, at national level, through the publication of **a dedicated press release** via the official website (here is the link) and social channels (Facebook, LinkedIn) of CREA.

Both the invitations sent by email and the published press release included **the agenda of the event**, which, on its text, included the link for participants registration.



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BIOPLAT-EU

Il progetto BIOPLAT-EU e il settore bioenergetico in Sardegna

Presentazione e guida all'uso dello strumento STEN

On-line – 9 Settembre 2021

Per accedere all'evento è necessario registrarsi in anticipo a questo LINK

Agenda dell'evento

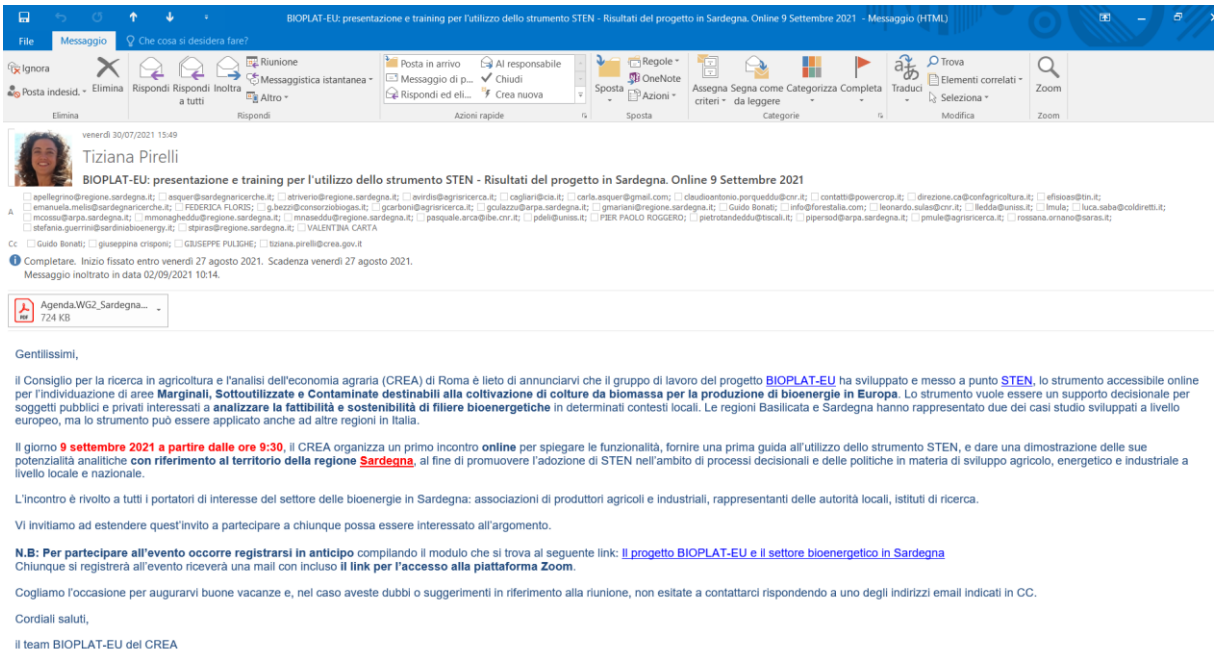
	9 Settembre 2021
09:20	Apertura dei lavori e registrazione dei partecipanti
	Sessione I: introduzione e apertura dei lavori
09:30	Il progetto BIOPLAT-EU e gli scenari possibili per la regione Sardegna: breve riepilogo del primo incontro con il gruppo di lavoro in Sardegna. **Guido Bonati - Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria (CREA) - Centro Politiche e Bioeconomia (PB) - Roma**
9:40	Presentazione dello strumento *STEN* (Sostenibilità delle filiere bioenergetiche in Europa e nei Paesi limitrofi) e dell'*Help Desk* BIOPLAT-EU per il supporto alle decisioni e alla valutazione ex-ante della sostenibilità ambientale, economica e sociale delle filiere bioenergetiche in regione. Caratteristiche e obiettivi. **Tiziana Pirelli - CREA PB - Roma**
	Sessione II: dimostrazione pratica e discussione interattiva
9:50	Guida pratica all'utilizzo e dimostrazione dello strumento online *STEN* e del relativo *Help Desk* **Giuseppe Pulighe - CREA PB - Sardegna**
10:30	Osservazioni, domande e discussione sulle funzionalità dello *STEN*
10:45	Sessione interattiva e discussione: lo sviluppo della filiera bioenergetica in Sardegna **Tiziana Pirelli - CREA PB - Roma**
11:20	Passi successivi: business plan **Guido Bonati - CREA PB- Roma**
11:30	Chiusura dei lavori

This project has received funding from the European Union's Horizon 2020 Research and Innovation programme under Grant Agreement n° 818083

Agenda of the workshop held on-line on 9 Sept. 2021

All invitees were asked to register in advance to the event by fulfilling a dedicated template set in the form of a google survey. This stepwise procedure allows CREA researchers to collect all data related to participants (e.g. name and surname; affiliation; role; type of stakeholder category group; contacts). Upon registration, participants received a confirmation e-mail

including two key elements useful for the participation in the workshop: the link to access the Zoom platform and enter in the workshop room; the consent form to be filled in and sent back to CREA staff members before the workshop date.



BIOPLAT-EU: presentazione e training per l'utilizzo dello strumento STEN - Risultati del progetto in Sardegna. Online 9 Settembre 2021 - Messaggio (HTML)

venerdì 30/07/2021 15:49

Tiziana Pirelli

BIOPLAT-EU: presentazione e training per l'utilizzo dello strumento STEN - Risultati del progetto in Sardegna. Online 9 Settembre 2021

Completare. Inizio fissato entro venerdì 27 agosto 2021. Scadenza venerdì 27 agosto 2021.
Messaggio inoltrato in data 02/09/2021 10:14.

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Gentilissimi,

il Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria (CREA) di Roma è lieto di annunciarvi che il gruppo di lavoro del progetto BIOPLAT-EU ha sviluppato e messo a punto STEN, lo strumento accessibile online per l'individuazione di aree **Marginali, Sottoutilizzate e Contaminate destinabili alla coltivazione di colture da biomassa per la produzione di bioenergie in Europa**. Lo strumento vuole essere un supporto decisionale per soggetti pubblici e privati interessati a **analizzare la fattibilità e sostenibilità di filiere bioenergetiche** in determinati contesti locali. Le regioni Basilicata e Sardegna hanno rappresentato due dei casi studio sviluppati a livello europeo, ma lo strumento può essere applicato anche ad altre regioni in Italia.

Il giorno **9 settembre 2021 a partire dalle ore 9:30**, il CREA organizza un primo incontro **online** per spiegare le funzionalità, fornire una prima guida all'utilizzo dello strumento STEN, e dare una dimostrazione delle sue potenzialità analitiche **con riferimento al territorio della regione Sardegna**, al fine di promuovere l'adozione di STEN nell'ambito di processi decisionali e delle politiche in materia di sviluppo agricolo, energetico e industriale a livello locale e nazionale.

L'incontro è rivolto a tutti i portatori di interesse del settore delle bioenergie in Sardegna: associazioni di produttori agricoli e industriali, rappresentanti delle autorità locali, istituti di ricerca.

Vi invitiamo ad estendere quest'invito a partecipare a chiunque possa essere interessato all'argomento.

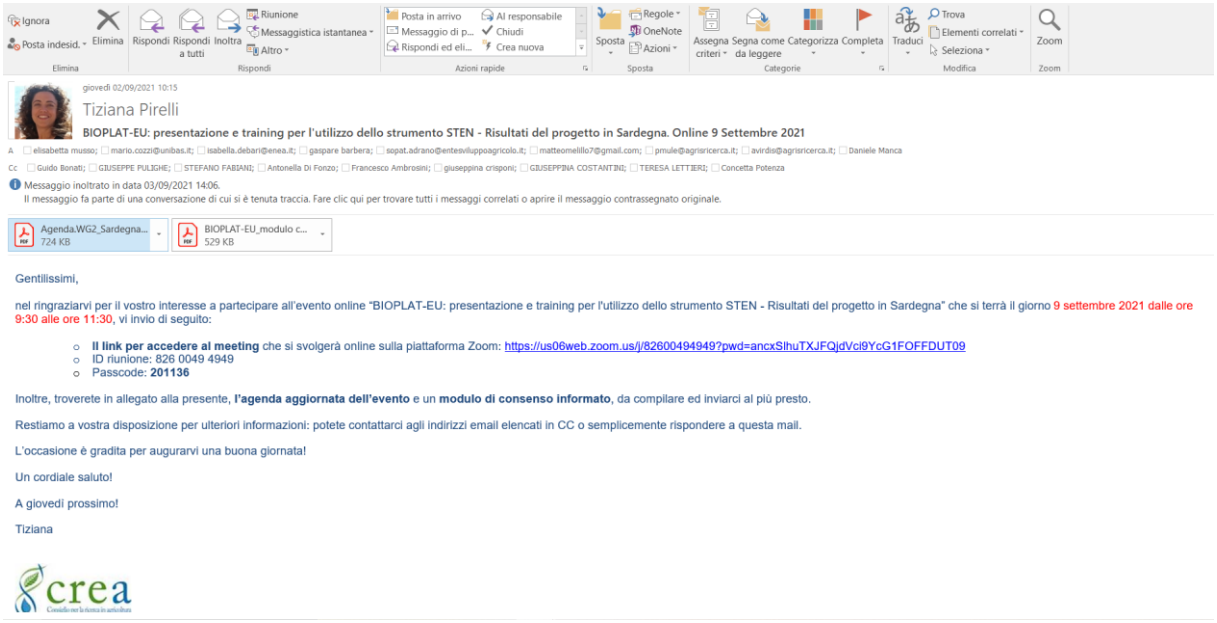
N.B: Per partecipare all'evento occorre registrarsi in anticipo compilando il modulo che si trova al seguente link: Il progetto BIOPLAT-EU e il settore bioenergetico in Sardegna
Chiunque si registrerà all'evento riceverà una mail con incluso **il link per l'accesso alla piattaforma Zoom**.

Cogliamo l'occasione per augurarvi buone vacanze e, nel caso aveste dubbi o suggerimenti in riferimento alla riunione, non esitate a contattarci rispondendo a uno degli indirizzi email indicati in CC.

Cordiali saluti,

il team BIOPLAT-EU del CREA

Invitation email sent on 30 July 2021, to the members of the BIOPLAT-EU working group established in Sardinia.



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Tiziana Pirelli

BIOPLAT-EU: presentazione e training per l'utilizzo dello strumento STEN - Risultati del progetto in Sardegna. Online 9 Settembre 2021

Messaggio inoltrato in data 03/09/2021 14:06.
Il messaggio fa parte di una conversazione di cui si è tenuta traccia. Fare clic qui per trovare tutti i messaggi correlati o aprire il messaggio contrassegnato originale.

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Gentilissimi,

nel ringraziarvi per il vostro interesse a partecipare all'evento online "BIOPLAT-EU: presentazione e training per l'utilizzo dello strumento STEN - Risultati del progetto in Sardegna" che si terrà il giorno 9 settembre 2021 dalle ore 9:30 alle ore 11:30, vi invio di seguito:

- **Il link per accedere al meeting** che si svolgerà online sulla piattaforma Zoom: https://us06web.zoom.us/j/82600494949?pwd=ancxSlhuTXJFQjdVcl9YcG1FOFFDUT09
- ID riunione: 826 0049 4949
- Passcode: **201136**

Inoltre, troverete in allegato alla presente, **l'agenda aggiornata dell'evento** e un **modulo di consenso informato**, da compilare ed inviarci al più presto.

Restiamo a vostra disposizione per ulteriori informazioni: potete contattarci agli indirizzi email elencati in CC o semplicemente rispondere a questa mail.

L'occasione è gradita per augurarvi una buona giornata!

Un cordiale saluto!

A giovedì prossimo!

Tiziana

crea

Example of confirmation email, sent to participants upon registration to the event. The email included the consent form (as attachment), and the link to access the meeting room on Zoom platform (in the body of the text).

5.3 Summary of presentations and discussions

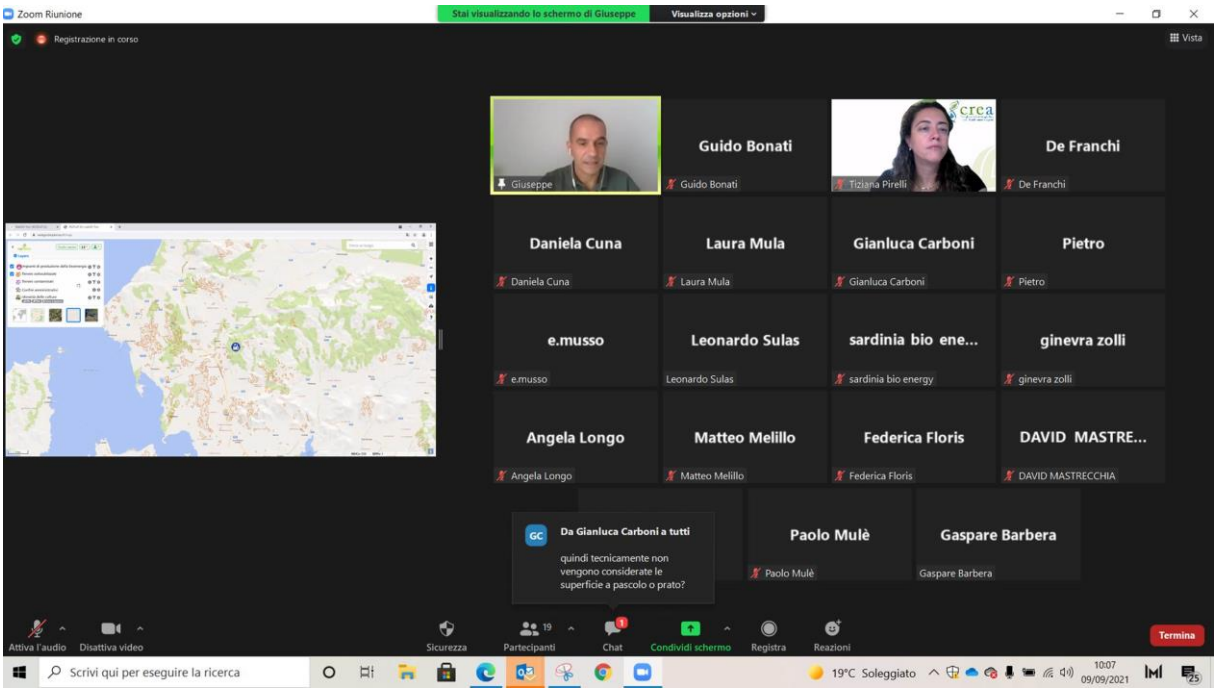
The workshop was opened by Mr. Guido Bonati, who welcomed all participants and notified them on the fact that the meeting would have been registered.

Mr. Bonati gave a general overview on the BIOPLAT-EU project: the partners involved, the project duration and the amount of funds allocated for implementing the activities foreseen within it. He summarized the overarching goal of the project and the activities implemented throughout the project lifespan, with a focus on the ones carried out in the two case study areas selected in Italy (i.e. Val Basento in Basilicata and Sulcis area in Sardinia). Then, Mr. Bonati summarized the main outcomes of the workshop held in Cagliari on 15 September 2020, and in particular, he explained which were the key reasons which brought to the selection of the biogas pathway as the most suitable ones, having the potential to be developed in Sardinia. In fact, previous researches conducted in Sardinia evidenced the limited possibilities to develop either a biodiesel value chain or a 2nd generation ethanol pathway (FORBIO) - due to the limited yield of alternative oil seeds crops already tested in the area – i.e. Cardum; and to competitive interests for the same areas and crops already expressed by a big national bioeconomy company; or to limited interest of farmers to embarking on new type of crops, such as *Arunda donax.*

Following Mr. Bonati opening speech, Dr. Tiziana Pirelli introduced the scope of the web-GIS tool developed in the course of the project and gave to participants a general overview on the stepwise approach which brought to its development. Then, Dr. Pirelli explained the main components (i.e. the GIS/map function and the STEN tool for the assessment of value chain sustainability) and features of the web-GIS tool. Ultimately, Dr. Pirelli explained the functionalities of the Helpdesk tool, which has been created and integrated in the on-line platform to support potential users of the web-GIS tool. Then, she invited participants to use the Helpdesk tool should they face any type of issues in playing with the STEN tool, or should they have any type of doubt, curiosity, or willingness to retrieve more information on the bioenergy sector in a specific context and how to develop it by adding value to MUC lands.

After the introductory session, the workshop moved to a practical live demonstration of the Web-tool, which was carried out by Dr. Giuseppe Pulighe. Dr. Pulighe guided the participants through the STEN tool, by starting from explaining how to access it via the BIOPLAT-EU website, how to complete the registration process for different type of users (advanced and non-advanced user). After having given a general explanation of the WEB-GIS tool, Dr. Pulighe focused on the territory targeted by the project in Sardinia and run the demonstration of multiple functionalities of the tool, by simulating the selection of a biogas pathway developed as a short value chain in the radium of an already existing biogas plant.

He showed how to identify potential patches to cultivate the raw biomass to be used as feedstock for the biogas plant among the one recognized as MUC areas, and how to select the most suitable type of biomass crops for the specific bioenergy pathway identified. During the workshop, maize was selected for demonstration purpose. By playing with the tool, Dr. Pulighe explained how different results can be obtained from the Sustainability assessment tool, by changing the data provided as information input in the calculator.



Screenshot taken during the live demonstration of the Web-GIS tool given during the workshop held via Zoom on 9 Sept. 2021, with a focus on Sardinia region.

During the demonstration of the web-GIS tool, participants were asked to submit their questions and requests for deepest explanations on both the project and the web-GIS tool via the Zoom chat. Relevant questions have been raised, a couple of which are reported below:

- According to the lessons learned throughout the project, which are the main barriers which prevent or cause strong delays for entrepreneurs and investors who want to realize a bioenergy value chain at the local level? Answers: in this case, the question raised the intervention of various participants, who contributed by pinpointing the following aspects/barriers:
    - The release of authorizations takes very long time (months, even years);
    - It has already happened (reported by a representative of ENI), that even after the release of public authorization, the actual realization of the other phases of the plan for a bioenergy value chain have been blocked due to lack of acceptance of the value chain by local citizens/associations;
    - Need to go through long consultation processes at local level;
    - Is it difficult to foster the production and use of biofuels, in a situation where the highest incentives from the government go to electricity (mainly solar panels) and bio-methane;
    - The government shall change the way of providing incentives for these type of value chains: they should come in the form of payment due for the implementation of environmental services;
    - Scarce bankability of the incentives guaranteed for biomethane and even worse situation for electric power;
    - The successful realization of the value chain requires the involvement and harmonization of many actors who intervene along the value chain;

  - The use of biomass coming from contaminated land is regulated by specific rules. The current regulation and legal framework shall be changed and adapted, if we want to develop a bioenergy sector by using MUC lands. Previous experiences of bioenergy crops cultivation (i.e. Arundo donax) in contaminated land, were stopped due to concerns/limits imposed by the current legal/regulation framework on the use of biomass produced in contaminated land;
  - Need to training farmers for the cultivation of new crops (e.g. *Camelina*, *Cardum*, *Arundo donax*) and how to access economic supports/incentives for integrating biogas in their farming production system.

- Does the web-GIS tool take into consideration the existence and suitability of rural streets, which are strongly required for the development of a local biogas value chain, since the transport of biomass within the region occurs mainly via road transports? Answer: not yet, indeed this part needs to be improved through reliefs on the ground.

The questions and answers session after the web-GIS tool demonstration was moderated by Dr. Tiziana Pirelli and encouraged through the use of 5 pre-defined guiding questions submitted to participants via Mentimeter, an interactive on-line tool to whom participants accessed via their own laptop. The five guiding questions used to animate the discussion are reported below:

- How much the bioenergy sector can potentially contribute to adding value to MUC land in your region?
- Beyond the web-GIS tool, what other elements do you think are the major factors needed to support the development of the bioenergy value chain based on the use of MUC areas in your region?
- Which among the three components of sustainability (environmental, social, economic), have to be prioritized for the successful development of a bioenergy value chain in your region? (The results of this question were meant to be discussed twice, the second time being after having showed the outcomes from the following three questions).
- In relation to the environmental sustainability, what do you think are the key factors to be prioritized in view of the development of a bioenergy value chain based on the use of MUC areas your region?
- In relation to the social sustainability, what do you think are the key factors to be prioritized in view of the development of a bioenergy value chain based on the use of MUC areas your region?
- In relation to the economic sustainability, what do you think are the key factors to be prioritized in view of the development of a bioenergy value chain based on the use of MUC areas your region?

Participants in the workshop were doubtful about the fact that the development of the bioenergy sector in Sardinia can actually contribute to adding value to local MUC lands, in light of the current conditions at local level. No-ne of the participants selected the options according to which this contribution can be null or negligible and only 1 participant selected the option

"highly significantly". The majority (6) of participants selected "yes it can" and 4 selected "yes, but just with a minor extent".

Beyond the web-GIS tool, other elements needed to support the development of bioenergy value chain based on the use of MUC areas in Sardinia are: scientific research (5 votes); economic support/incentives from the public authority (4 votes); public services to support the various actors along the value chains (3 votes); access to information (3 votes) and training (2 votes).

Among the three components of sustainability in determining the successful development of a bioenergy value chain in Basilicata, participants in the workshop recognized similar value to all the three pillars of the sustainability: the economic pillar (7 votes), then the environmental aspects (6 votes) and the social pillar (5 votes).

Among the factors determining the environmental sustainability of the bioenergy sector in Basilicata, participants prioritized the following: water, preservation of water and soil, GHG emissions, biodiversity, fight against abandonment of agricultural land, fertilizers management, waste.

Factors prioritized by workshop participants as needed for the development of an environmentally sustainable bioenergy pathway in Sardinia.

Among the factors determining the economic sustainability of the bioenergy sector in Sardinia, participants prioritized the following: job opportunities, income opportunities, return on investments, waste disposal, efficient use of by-products, adding value to MUC lands, short distance between cultivation field and processing plant.

Factors prioritized by workshop participants as needed for the development of an economically sustainable bioenergy pathway in Sardinia.

Among the factors determining the social sustainability of the bioenergy sector in Sardinia, participants prioritized the following: job opportunities; opportunities for youth; new professional opportunities; reduction of depopulation of southern regions; reduction of agricultural land abandonment; education; farmers training; inclusivity.

Factors prioritized by workshop participants as needed for the development of an social sustainable bioenergy pathway in Sardinia.

5.4 Conclusions

The discussion held during the workshop highlighted the interest of local stakeholders in exploring opportunities to diversify their farming systems and create opportunities for additional income and job, especially for youth. In this context, participants in the event found interesting the possibility to allocate MUC lands to bioenergy crop production, anyway, they expressed multiple doubts on the actual feasibility of short bioenergy value chains in the island, and pinpointed the existing barriers which currently prevent the actual development of the bioenergy sector at local level: the scarce acceptance of bioenergy by local population, the current limits imposed by the current legal and regulation framework which limit or forbid the use of biomass produced on contaminated land; the scarce productivity of crops (e.g., oilcrops) useful to feed bioenergy pathways other than biogas.

Furthermore, participants highlighted a few limits affecting the current version of the STEN tool, which shall be further improved with data coming from the field. For instance, the position of the biogas plants present in the island according to the web-GIS tool, frequently do not correspond to the actual position of the plant, but only to the legal office of the company. This issue shall be adjusted to come out with valuable sustainability assessment data. Another issue is the lack of consideration of the status of rural infrastructure, mainly streets, which cover key factors for the efficient and sustainable transportation of the feedstock from MUC lands to the processing plant.

Last but not least, participants highlighted that not only bioenergy but also other competitive uses of MUC lands shall be considered and foster through the support of policies and measures, such as the cultivation of biomass for bioeconomy production purposes and other green chemistry industries.

6 Workshop in Basilicata, Italy

6.1 Introduction

The BIOPLAT-EU workshop to promote the efficacy and profitability of using MUC land for sustainable bioenergy production and to present to local stakeholders in Basilicata the web-GIS tool, was held on-line on 7 September 2020. The full list of registered participants in the workshop is reported in the table below.

Name and Surname	Affiliation	Role	Stakeholder's category group
Alessandro Giocoli	ENEA	Researcher	University/Research Institute
Angela Longo	Insitute for Agricultural development – Region of Sicily	Technical Assistance Officer	University/Research Institute
Angela Marchitelli	Regional Government of Basilicata Department of Agricultural and Forestry Policies	Public official	Representative of local authority – Regional Government of Basilicata
Aniello Crescenzi	ALSIA (Basilicata Innovation Development Agency)	Director General	Representative of local authority
Antonella Logiurato	Office of natural park, biodiversity, natural landscape conservation and restoration.	Posizione Organizzativa	Representative of local authority – Regional Government of Basilicata
Antonella Russo	GREENSWITCH S.r.l.	AD	Bioeconomy/bioenergy entrepreneur
Antonellla Di Fonzo	CREA	CTER	Farmer/Biomass producer
Antonio Di Cosimo	Bonollo Energia	AD	Bioeconomy/bioenergy entrepreneur
Antonio Lanorte	Legambiente –Basilicata Region	President	Environmental Association
Balducchi Roberto	ENEA CR Trisaia	Research Manager - Resp Lab. Bioproducts and Bioprocesses	University/Research Institute
Concetta Potenza	CREA-PB Basilicata	Technologist	University/Research Institute
Daniela Cuna	ENEA	Researcher	University/Research Institute
David Mastrecchia	Eni spa	Manager	Industrial Consortium for energy production

Domenico Linsalata	Private company	Private landowner	Farmer/Biomass producer
Donato Distefano	CIA. National Association of Agricultural Producers	Regional director	Farmers/Producers Association (e.g.Coldiretti, CIA, Confagricoltura, COPAGRI)
Donato Semeraro	AGCI – General association of cooperatives in Italy – BASILICATA region	President	Bioeconomy/bioenergy entrepreneur
Egidio De Stefano	ALSIA (Basilicata Innovation Development Agency)	Officer in charge of the Nemoli Experimental Farm	University/Research Institute
Elisabetta Musso	CREA	CREA office in SANREMO (Liguria)	University/Research Institute
Francesco Campisano	Compass spa – Company distributing GPL on behalf of ENI	Data Analysis	Bioeconomy/bioenergy entrepreneur
Galeazzo Leonardo	Coldiretti	Legal officer	Farmers/Producers Association (e.g.Coldiretti, CIA, Confagricoltura, COPAGRI)
Gaspare Barbera	CREA	CTER	University/Research Institute
Giampiero De Meo	CSI Matera	Consultant	Industrial consortium
Ginevra Zolli	Itabia	Member	Environmental Association
Giuseppe Città	Agricultural development Institute	Officer for technical assistance	University/Research Institute
Giuseppe Perrone	ENI spa	Head of Biomethane project	Energy company
Giuseppe Pulighe	CREA PB	Researcher	University/Research Institute
Giuseppina Costantini	CREA-PB	Technologist officer	University/Research Institute
Guido Bonati	CREA	Director Technologist	University/Research Institute
Isabella De Bari	ENEA	Responsible for biorefinery and	University/Research Institute

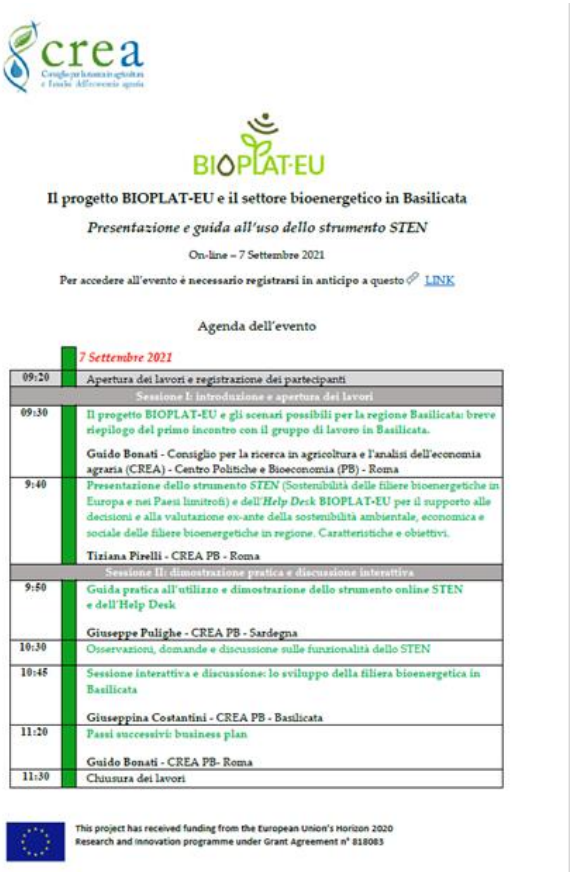
		green chemistry labs	
Luigi Viviano	Regional government of Basilicata	Responsible PO	Representative of regional government of Basilicata
Maria Alvino	CREA-ZA BELLA	Technical assistant	University/Research Institute
Maria Incoronata Labella	Regional government of Basilicata	Officer	Representative of regional government of Basilicata
Mario Cozzi	UNIBAS	Professor	Università
Marta Canu	Agris	Researcher	University/Research Institute
Martin Lazzaro	Foro Bioeconomía Forestal, Caimancito, Argentina	Coordinator	Representative of the Regional government of Basilicata
Matteo Melillo	La Tuscia University	Master Student	Bioeconomy/bioenergy entrepreneur
Monni Matteo	ITABIA - Italian Biomass Association	Vice President	Farmers/Producers Association (e.g.Coldiretti, CIA, Confagricoltura, COPAGRI)
Nicola Colonna	ENEA	Researcher	University/Research Institute
Nicola Pierro	ENEA	Research assistant	University/Research Institute
Nino Mancuso	Soc.Agricultural Cooperative ”La Generale”	President and Legal Representative	Farmer/Biomass producer
Pasquale Latorre	Confapi matera	Vice-director	Farmers/Producers Association (e.g.Coldiretti, CIA, Confagricoltura, COPAGRI)
Piermichele La Sala	University of Foggia (Apulia), Department of Economy	Professor	University/Research Institute
Stefano.Gazziano	ENEA	Senior expert	University/Research Institute
Teresa Lettieri	CREA-PB Basilicata	Technologist	University/Research Institute
Vincenzo Augusto Gerardi	ENEA	Researcher	University/Research Institute
Vincenzo Malfa	Consortium for the Industrial Development	Strategy manager	Industrial Consortium

	of the Province of Matera		
Yulia Kiryakova	FEEM	Researcher	University/Research Institute

6.2 Invitation

The agenda of the event (Figure below) was sent via email to a pre-selected list of stakeholders identified in Basilicata, among which the members of the BIOPLAT-EU local working group, established at the beginning of the project and involved in the first workshop held in person, in Matera, on 14 October 2020. Beyond the member of the above mentioned working group, the email invitation was extended also to other stakeholders, such as representative of public authorities, national industrial companies (e.g., ENI), private and public landowners. The involvement of additional stakeholders was possible thanks to the collaboration of various farmers and producer associations and local industrial consortia (e.g. Industrial Consortium of Matera). Furthermore, the event was spread to the wide public, at a national level, through the publication of **a dedicated press release** via the official website (here the link) and social channels (Facebook, LinkedIn) of CREA.

Either the invitations sent by email and the published press release included **the Agenda of the event**, which, on its text, included the link for participants registration.



crea

BIOPLAT-EU

Il progetto BIOPLAT-EU e il settore bioenergetico in Basilicata

Presentazione e guida all'uso dello strumento STEN

On-line – 7 Settembre 2021

Per accedere all'evento è necessario registrarsi in anticipo a questo LINK

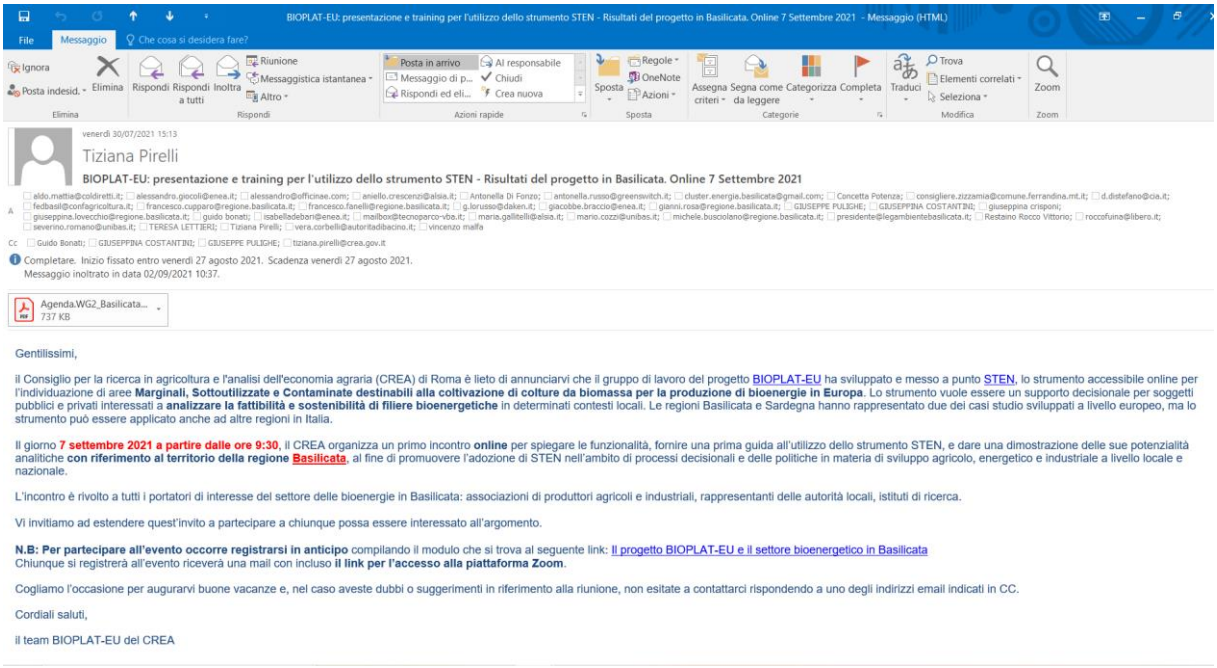
Agenda dell'evento

	7 Settembre 2021
09:20	Apertura dei lavori e registrazione dei partecipanti
	Sessione I: introduzione e apertura dei lavori
09:30	Il progetto BIOPLAT-EU e gli scenari possibili per la regione Basilicata: breve riepilogo del primo incontro con il gruppo di lavoro in Basilicata. **Guido Bonati - Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria (CREA) - Centro Politiche e Bioeconomia (PB) - Roma**
9:40	Presentazione dello strumento *STEN* (Sostenibilità delle filiere bioenergetiche in Europa e nei Paesi limitrofi) e dell'*Help Desk* BIOPLAT-EU per il supporto alle decisioni e alla valutazione ex-ante della sostenibilità ambientale, economica e sociale delle filiere bioenergetiche in regione. Caratteristiche e obiettivi. **Tiziana Pirelli - CREA PB - Roma**
	Sessione II: dimostrazione pratica e discussione interattiva
9:50	Guida pratica all'utilizzo e dimostrazione dello strumento online STEN e dell'Help Desk **Giuseppe Pulighe - CREA PB - Sardegna**
10:30	Osservazioni, domande e discussione sulle funzionalità dello STEN
10:45	Sessione interattiva e discussione: lo sviluppo della filiera bioenergetica in Basilicata **Giuseppina Costantini - CREA PB - Basilicata**
11:20	Passi successivi: business plan **Guido Bonati - CREA PB- Roma**
11:30	Chiusura dei lavori

This project has received funding from the European Union's Horizon 2020 Research and innovation programme under Grant Agreement n° 818083

Agenda of the workshop held on-line on 7 Sept. 2021.

All potential participants were asked to register themselves by fulfilling a dedicated template set in the form of a google survey. This stepwise procedure allows CREA researchers to collect all data related to participants (e.g., name and surname; affiliation; role; type of stakeholder category group; contacts). Upon registration, participants received a confirmation e-mail including two key components: the link to access the Zoom platform and enter in the workshop room; the consent form to be filled in and sent back to CREA staff members before the workshop date.



BIOPLAT-EU: presentazione e training per l'utilizzo dello strumento STEN - Risultati del progetto in Basilicata. Online 7 Settembre 2021 - Messaggio (HTML)

venerdì 30/07/2021 15:13

Tiziana Pirelli

BIOPLAT-EU: presentazione e training per l'utilizzo dello strumento STEN - Risultati del progetto in Basilicata. Online 7 Settembre 2021

Completare. Inizio fissato entro venerdì 27 agosto 2021. Scadenza venerdì 27 agosto 2021.
Messaggio inoltrato in data 02/09/2021 10:37.

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Gentilissimi,

il Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria (CREA) di Roma è lieto di annunciarvi che il gruppo di lavoro del progetto BIOPLAT-EU ha sviluppato e messo a punto STEN, lo strumento accessibile online per l'individuazione di aree **Marginali, Sottoutilizzate e Contaminate destinabili alla coltivazione di colture da biomassa per la produzione di bioenergie in Europa**. Lo strumento vuole essere un supporto decisionale per soggetti pubblici e privati interessati a **analizzare la fattibilità e sostenibilità di filiere bioenergetiche** in determinati contesti locali. Le regioni Basilicata e Sardegna hanno rappresentato due dei casi studio sviluppati a livello europeo, ma lo strumento può essere applicato anche ad altre regioni in Italia.

Il giorno **7 settembre 2021 a partire dalle ore 9:30**, il CREA organizza un primo incontro **online** per spiegare le funzionalità, fornire una prima guida all'utilizzo dello strumento STEN, e dare una dimostrazione delle sue potenzialità analitiche **con riferimento al territorio della regione Basilicata**, al fine di promuovere l'adozione di STEN nell'ambito di processi decisionali e delle politiche in materia di sviluppo agricolo, energetico e industriale a livello locale e nazionale.

L'incontro è rivolto a tutti i portatori di interesse del settore delle bioenergie in Basilicata: associazioni di produttori agricoli e industriali, rappresentanti delle autorità locali, istituti di ricerca.

Vi invitiamo ad estendere quest'invito a partecipare a chiunque possa essere interessato all'argomento.

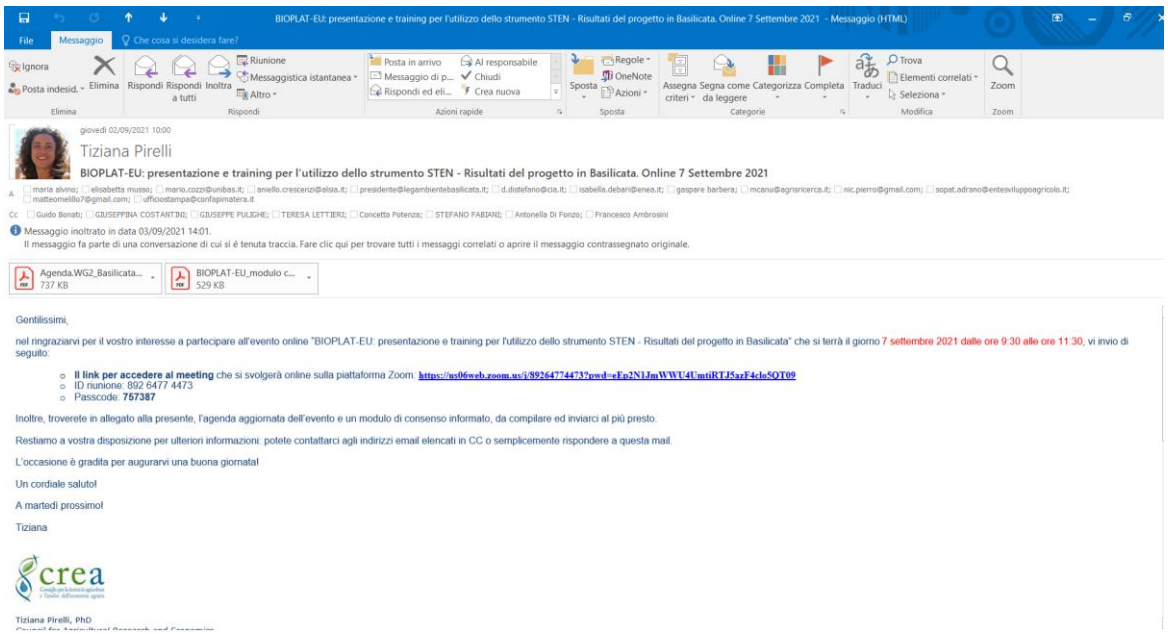
N.B: Per partecipare all'evento occorre registrarsi in anticipo compilando il modulo che si trova al seguente link: Il progetto BIOPLAT-EU e il settore bioenergetico in Basilicata
Chiunque si registrerà all'evento riceverà una mail con incluso **il link per l'accesso alla piattaforma Zoom**.

Cogliamo l'occasione per augurarvi buone vacanze e, nel caso aveste dubbi o suggerimenti in riferimento alla riunione, non esitate a contattarci rispondendo a uno degli indirizzi email indicati in CC.

Cordiali saluti,

il team BIOPLAT-EU del CREA

Invitation sent by email on 30 July 2021, to the members of the BIOPLAT-EU working group established in Basilicata.



BIOPLAT-EU: presentazione e training per l'utilizzo dello strumento STEN - Risultati del progetto in Basilicata. Online 7 Settembre 2021 - Messaggio (HTML)

giovedì 02/09/2021 10:00

Tiziana Pirelli

BIOPLAT-EU: presentazione e training per l'utilizzo dello strumento STEN - Risultati del progetto in Basilicata. Online 7 Settembre 2021

Messaggio inoltrato in data 03/09/2021 14:01.
Il messaggio fa parte di una conversazione di cui si è tenuta traccia. Fare clic qui per trovare tutti i messaggi correlati o aprire il messaggio contrassegnato originale.

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BIOPLAT-EU_modulo c... 529 KB

Gentilissimi,

nel ringraziarvi per il vostro interesse a partecipare all'evento online "BIOPLAT-EU: presentazione e training per l'utilizzo dello strumento STEN - Risultati del progetto in Basilicata" che si terrà il giorno 7 settembre 2021 dalle ore 9:30 alle ore 11:30, vi invio di seguito:

- **Il link per accedere al meeting** che si svolgerà online sulla piattaforma Zoom: https://us06web.zoom.us/j/89264774473?pwd=eEp2N1JmWWU4UmtiRTJ5azF4clo5QT09
- ID riunione: 892 6477 4473
- Passcode: **757387**

Inoltre, troverete in allegato alla presente, l'agenda aggiornata dell'evento e un modulo di consenso informato, da compilare ed inviarci al più presto.

Restiamo a vostra disposizione per ulteriori informazioni: potete contattarci agli indirizzi email elencati in CC o semplicemente rispondere a questa mail.

L'occasione è gradita per augurarvi una buona giornata!

Un cordiale saluto!

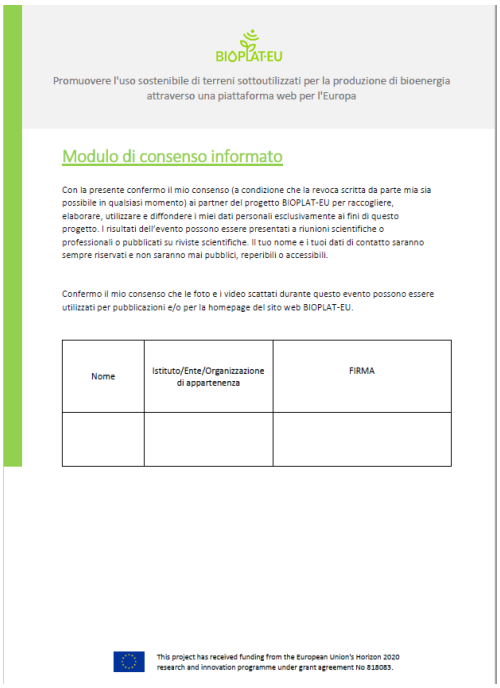
A martedì prossimo!

Tiziana

crea

Tiziana Pirelli, PhD

Example of confirmation email, sent to participants upon registration to the event. The email included the consent form (as attachment), and the link to access the meeting room on Zoom platform (in the body of the text).



BIOPLAT-EU

Promuovere l'uso sostenibile di terreni sottoutilizzati per la produzione di bioenergia attraverso una piattaforma web per l'Europa

Modulo di consenso informato

Con la presente confermo il mio consenso (a condizione che la revoca scritta da parte mia sia possibile in qualsiasi momento) ai partner del progetto BIOPLAT-EU per raccogliere, elaborare, utilizzare e diffondere i miei dati personali esclusivamente ai fini di questo progetto. I risultati dell'evento possono essere presentati a riunioni scientifiche o professionali o pubblicati su riviste scientifiche. Il tuo nome e i tuoi dati di contatto saranno sempre riservati e non saranno mai pubblici, reperibili o accessibili.

Confermo il mio consenso che le foto e i video scattati durante questo evento possono essere utilizzati per pubblicazioni e/o per la homepage del sito web BIOPLAT-EU.

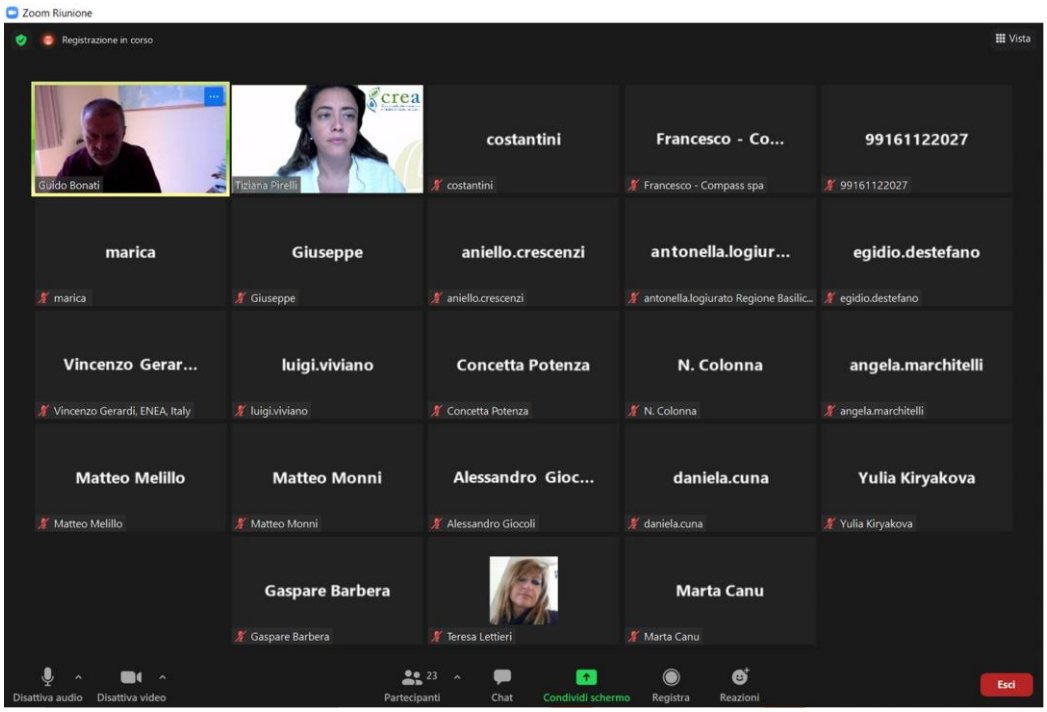
Nome	Istituto/Ente/Organizzazione di appartenenza	FIRMA

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 818083.

Consent form sent as attachment in the confirmation email sent to registered participants.

6.3 Summary of presentations and discussions

The workshop was opened by Mr. Guido Bonati, who welcomed all participants and notified them on the fact that the meeting would have been registered.



Screenshot taken during the workshop „Demonstration of the STEN tool. Practical demonstration in Basilicata" held via Zoom on 7 Sept. 2021.

Mr. Bonati gave an overview of the BIOPLAT-EU project: the partners involved, the project duration, and the amount of funds allocated for implementing it. He summarized the overarching goal of the project and the activities implemented throughout the project lifespan, with a focus on the ones carried out in the two case study areas selected in Italy (i.e., Val Basento in Basilicata and Sulcis area in Sardinia). Then Mr. Bonati summarized the main outcomes of the workshop held in Basilicata in October 2020 and, in particular, he explained which were the key reasons which brought to the selection of the biodiesel pathway as the most suitable bioenergy pathway having the potential to be sustainably developed in Basilicata, mainly thanks to the presence of an already well-established biorefinery plant (i.e., Greenswitch).

Following Mr. Bonati opening speech, Dr. Tiziana Pirelli introduced the scope of the web-GIS tool developed in the course of the project and gave to participants a general overview of the stepwise approach which brought to its development. Then, Dr. Pirelli explained the main components (i.e., the GIS/map function and the STEN tool for the assessment of value chain sustainability) and features of the web-GIS tool. Ultimately, Dr. Pirelli explained the functionalities of the Helpdesk tool, which has been created to support potential users of the web-GIS tool, and invited participants to use it should they face any type of issues in playing with the STEN tool, or should they have any type of doubt, curiosity or willingness to retrieve more information on the bioenergy sector and how to develop it by adding value to Marginal, Underutilized and Contaminated land.

After the introductory session, the workshop moved to a practical live demonstration of the Web-tool, which was carried out by Dr. Giuseppe Pulighe. Dr. Pulighe guided the participants through the STEN tool, by starting from explaining how to access the tool via the BIOPLAT-EU website, how to complete the registration process for a different type of users. After having given a general overview of the WEB-GIS tool, Mr. Pulighe focused the demonstration on the territory of Basilicata region and run the multiple functionalities of the tool, in particular by explaining the opportunities to select various bioenergy pathways, suitable type of biomass crops, and on how to identify potential patches for bioenergy crops cultivation among the one recognized as MUC areas. By playing with the tool, Dr. Pulighe explained how the changes of data in the calculator, ultimately result in various types of information, as an output of the Sustainability assessment tool.

During the demonstration of the web-GIS tool, participants were asked to submit their questions and requests for deepest explanations on both the project and the tool via the Zoom chat. Relevant questions have been raised, a few of which are reported below:

- Have the Calanchive areas been included in the MUC land considered by the tool? These areas could be difficult to cultivate because of their high slope. We shall exclude these areas with high slope. Answer: Yes, the areas characterized by high slopes have been not included in the MUC land. It was indeed one of the criteria considered as a filter in the selection process to identify suitable MUC areas for the cultivation of bioenergy crops.
- Why not integrating into the tool, beyond the marginal areas potentially considered for the cultivation of "energy crops", also information about the availability of agricultural

and agro-industrial waste and residues. The integration of different types of biomass could facilitate the supply plan of any energy conversion plants or biorefineries. Answer: yes, we can understand the potential of this information, nevertheless, this was not included among the objectives of the STEN tool. At list so far. We can consider this option for possible follow up activities, if any.

- Which are the methodologies behind the web-GIS tool (e.g., base for calculating the sustainability calculation)? Answer: Methodology and description at the base of the STEN tool have been developed starting from GBEP indicators. The manual including detailed methodologies for the assessment of the GBEP indicators for bioenergy are available at this link: http://www.globalbioenergy.org/fileadmin/user_upload/gbep/docs/Indicators/The_GBEP_Sustainability_Indicators_for_Bioenergy_FINAL.pdf
- The assessment of economic sustainability of the bioenergy pathway shall pick up data related to the market from databases which provide actual prices for biomass and final products, updated on a regular basis (e.g., each 6 months period). An example of this dataset for biodiesel is available at this link: https://www.neste.com/investors/market-data/biodiesel-prices-sme-fame#4afca1bd.

The questions and answers session after the web-GIS tool demonstration was moderated by Ms. Giuseppina Costantini, as part of CREA team based in Basilicata, and stimulated through the use of 5 pre-defined guiding questions submitted to participants via Mentimeter, an interactive on-line tool to whom participants accessed via their own laptop. The five guiding questions used to animate the discussion are reported below:

- How much the bioenergy sector can potentially contribute to adding value to MUC land in your region?
- Beyond the web-GIS tool, what other elements do you think are the major factors needed to support the development of the bioenergy value chain based on the use of MUC areas in your region?
- Which among the three components of sustainability (environmental, social, economic), have to be prioritized for the successful development of a bioenergy value chain in your region? (The results of this question were meant to be discussed twice, the second time being after having showed the outcomes of the discussion following the following three questions).
- In relation to the environmental sustainability, what do you think are the key factors to be prioritized given the development of a bioenergy value chain based on the use of MUC areas your region?
- In relation to the social sustainability, what do you think are the key factors to be prioritized given the development of a bioenergy value chain based on the use of MUC areas your region?
- In relation to the economic sustainability, what do you think are the key factors to be prioritized given the development of a bioenergy value chain based on the use of MUC areas your region?

According to the answers received from the participants, the development of the bioenergy sector can significantly contribute to adding value to MUC lands in the Basilicata region, in light of the current context conditions. No-ne of the participants selected the options according to which this contribution can be null or negligible.

Beyond the web-GIS tool, other elements needed to support the development of bioenergy value chain based on the use of MUC areas in Basilicata are: economic support/incentives from the public authority (7 votes); public services to support the various actors along the value chains (7 votes); access to training (4 votes) and information (3 votes); research (3 votes).

Among the three components of sustainability in determining the successful development of a bioenergy value chain in Basilicata, participants in the workshop prioritized the economic pillar (13 votes), then the environmental aspects (12 votes), and only lastly the social pillar (3 votes).

Among the factors determining the environmental sustainability of the bioenergy sector in Basilicata, participants prioritized the following: water, soil, GHG emissions, land use.

Factors prioritized by workshop participants as needed for the development of an environmentally sustainable bioenergy pathway in Basilicata.

Among the factors determining the economic sustainability of the bioenergy sector in Basilicata, participants prioritized the following: incentives, payment for environmental services, income of actors along the value chain, job opportunities.

Factors prioritized by workshop participants as needed for the development of an economically sustainable bioenergy pathway in Basilicata.

Among the factors determining the economic sustainability of the bioenergy sector in Basilicata, participants prioritized the following: job opportunities; opportunities for youth; farmers training; new professional opportunities; income distribution

Factors prioritized by workshop participants as needed for the development of an social sustainable bioenergy pathway in Basilicata.

The general discussion following participants consultation via Mentimeter, focused on the many relevant social impacts that the development of a local bioenergy value chain based on the cultivation of MUC lands in Basilicata, can have on local stakeholders and especially in terms of sustainable development for the entire region.

6.4 Conclusions

The presence of MUC lands in Basilicata is well known. These could be used to cultivate non-food biomass to be addressed to various uses and production purposes. Anyway, before allocating MUC lands to bioenergy production, other possible opportunities and competitive uses shall also be considered, to maximize the benefits which may be generated from their cultivation and valorisation.

The development of both the bioenergy and the bioeconomy sectors can actually contribute to the requalification of MUC lands and to recognize them as a new, added value. At the same time, the bioenergy sector can offer opportunities to develop new professional skills and increase the number of jobs available in regions of Southern Italy, such as Basilicata, which are currently facing a continuously decrease in their population due to poor opportunities for jobs and income, which cause a continuous emigration flow interesting especially youth. The development of local value chains can have positive feedback on the territory, beyond the environmental level, but also from a social and economic point of view.

Public administrators shall have a comprehensive awareness of the various phases of the value chain. Incentivize the production of biomass, through agricultural incentives and supporting measures, could be required but not sufficient. What will we do with this biomass, if we do not create opportunities to develop also the other phases of the value chain? It is essential to adopt a comprehensive, value chain approach and to support or subsidized not only farmers and biomass producers, but also the other actor along the value chain, such as bioenergy entrepreneurs.

The value chain approach is key to guide the selection of the type of crops to be cultivated, and to ensure the sustainability of the value chain in the long-term period. Beyond annual crops, it would be also appropriate to study the suitability of multi-annual crops, which can provide additional environmental benefits, e.g. to face soil erosion.

7 Workshop in Bacau County, Romania

7.1 Introduction

The workshop for private and public landowners related to the study case area Bacau County (Romania) took place in Bacau on the 21st of September 2021, between 9:30-14:15.

The event was organized in physical format. It was considered that a physical format will serve better to the objectives of the event. The access to the online facilities for some farmers would have been limited in case of an online event.

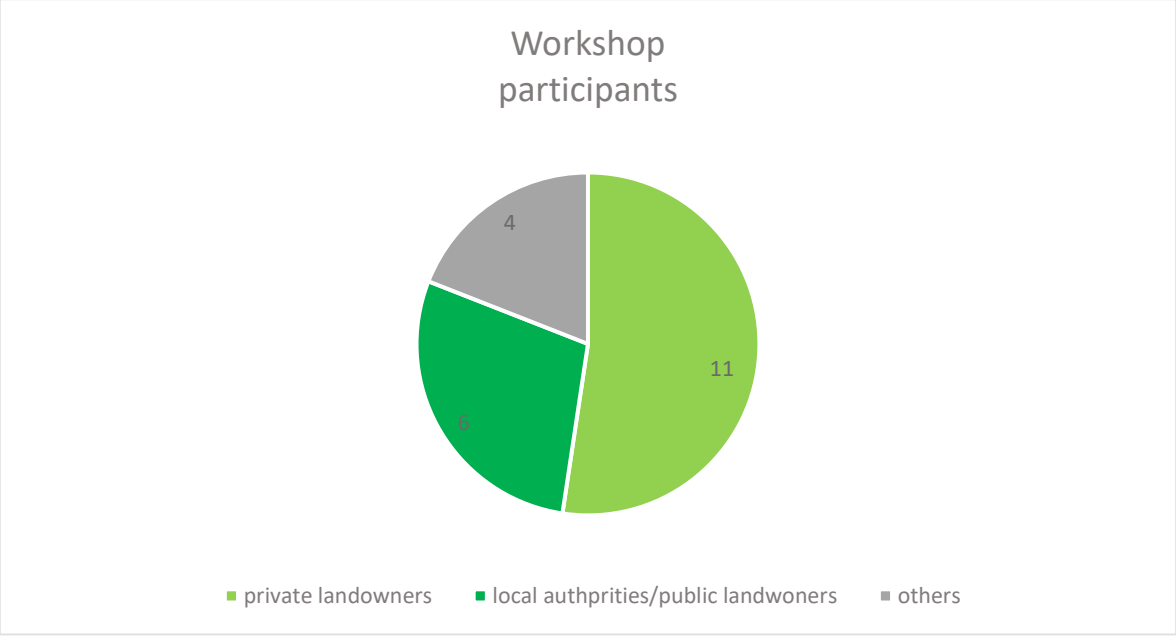
The event was organized with the direct support of three municipalities from the county (Măgura, Strugari Municipality and Buhuși), Association G.A.L. Ulmus Montana and Technological Transfer Centre "Digital&Smart Hub PETAL.

The location of the event was near Bacau city, in the rural Magura commune, in order to facilitate a better access of the farmers from the surrounding area.

Participants belonged to the following main categories:

- Working group members (WGM)
- A representative of HIDROELECTRICA, the company that owns the land for which a feasibility analysis was developed within the project
- Representatives of municipalities which are public landowners
- Private landowners
- Other organizations or public institutions

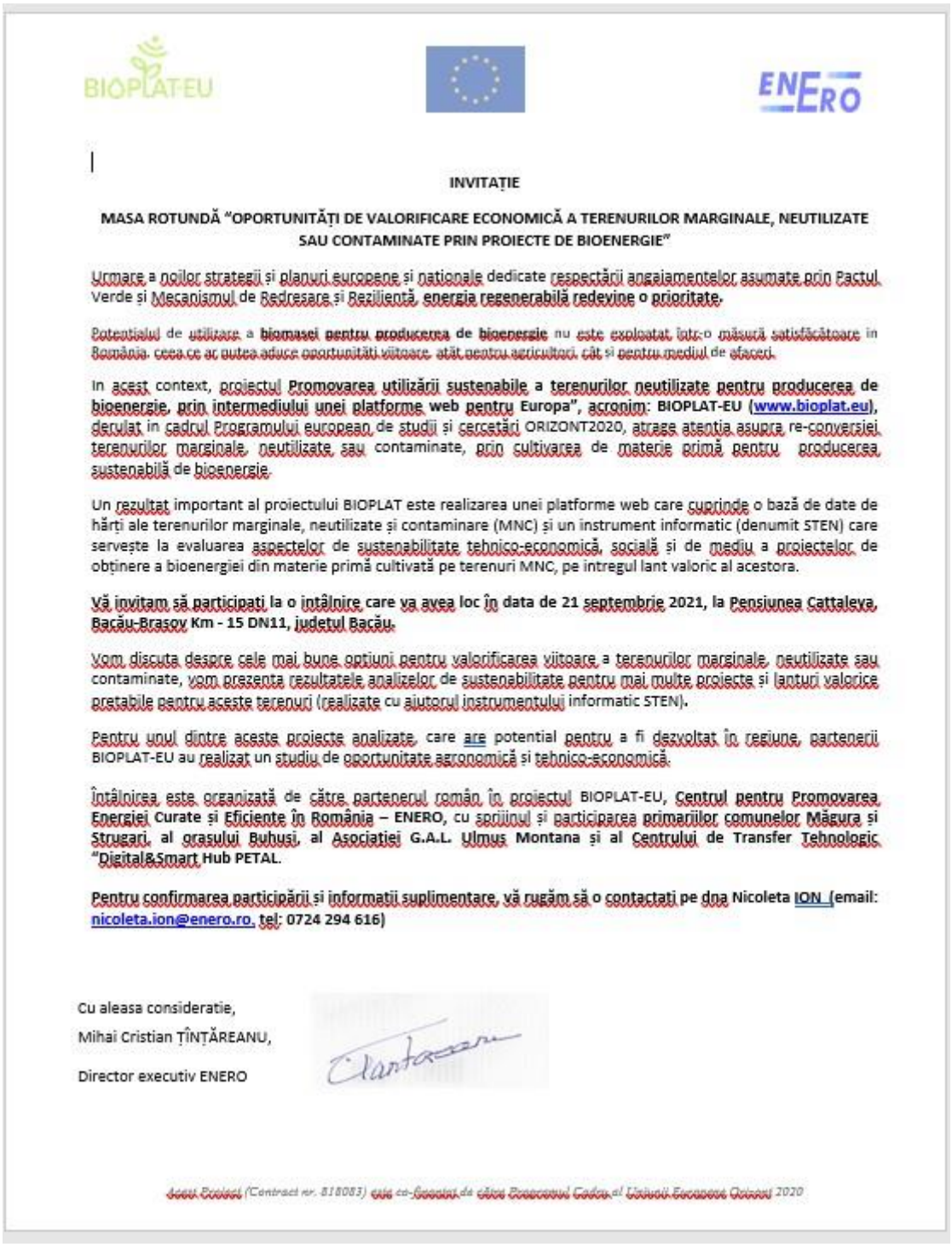
Among 21 participants, beside the organiser ENERO, 11 are private landowners and 6 are representatives of public landowners.



The table below shows the list of participants.

	Participant	Organisation	Stakeholder category
1	Pislaru Gica	Agricultural Directorate Bacau	Agricultural Expert, Public authority
2	Magdalin Catalin	HIDROELECTRICA SA	Public landowner
3	Spataru Dan	Bavaria invest	Private Landowner
4	Baraga Perino	CTT Petal	Private investor & landowner
5	Draghicescu Manuela	CTT Petal, SUNE	Other-Industries Association Energy Expert
6	Isaila Eugen	Farmer	Private landowner
7	Paduraru Adrian	Municipality of BUHUSI	Public Authority, Public landowner
8	Saulea Claudiu Ionut	Office of Pedological and Agrochemical Studies Bacau	Local authorities/ agricultural expert
9	Hamad Talal	Vice-mayor – Municipality of Magura	Public Authority, Public landowner
10	Cucos Iulian	University of Iasi	Academia
11	Botezatu V	Farmer	Private landowner
12	Moiseiu Daniel	Farmer	Private landowner
13	Tofan Vasile	Farmer	Private landowner
14	Lupu Vasile	Mayor of Parjol commune	Public Authority, Public landowner
15	Cretulescu V	Farmer	Private landowner
16	Gheorghe Paul	Farmer	Private landowner
17	Radu	Farmer	Private landowner
18	Timiras Silviu	Farmer	Private landowner
19	Mihaila Daniel	Farmer	Private landowner
20	Iordache Costras	Mayor of Magura commune	Public Authority, Public landowner
21	Vasile Rotariu	Mayor of Strugari commune	Public Authority, Public landowner

7.2 Invitation



INVITAȚIE

MASA ROTUNDĂ "OPORTUNITĂȚI DE VALORIFICARE ECONOMICĂ A TERENURILOR MARGINALE, NEUTILIZATE SAU CONTAMINATE PRIN PROIECTE DE BIOENERGIE"

Urmare a noilor strategii și planuri europene și naționale dedicate respectării angajamentelor asumate prin Pactul Verde și Mecanismul de Redresare și Reziliență, **energia regenerabilă redevine o prioritate.**

Potențialul de utilizare a **biomasei pentru producerea de bioenergie** nu este exploatat într-o măsură satisfăcătoare în România, ceea ce ar putea aduce oportunități viitoare, atât pentru agricultori, cât și pentru mediul de afaceri.

În acest context, proiectul **Promovarea utilizării sustenabile a terenurilor neutilizate pentru producerea de bioenergie, prin intermediului unei platforme web pentru Europa", acronim: BIOPLAT-EU (www.bioplat.eu),** derulat în cadrul Programului european de studii și cercetări ORIZONT2020, atrage atenția asupra re-conversiei terenurilor marginale, neutilizate sau contaminate, prin cultivarea de materie primă pentru producerea sustenabilă de bioenergie.

Un rezultat important al proiectului BIOPLAT este realizarea unei platforme web care cuprinde o bază de date de hărți ale terenurilor marginale, neutilizate și contaminare (MNC) și un instrument informatic (denumit STEN) care servește la evaluarea aspectelor de sustenabilitate tehnico-economică, socială și de mediu a proiectelor de obținere a bioenergiei din materie primă cultivată pe terenuri MNC, pe întregul lant valoric al acestora.

Vă invităm să participați la o întâlnire care va avea loc în data de 21 septembrie 2021, la Pensiunea Cattaleya, Bacău-Brasov Km - 15 DN11, județul Bacău.

Vom discuta despre cele mai bune opțiuni pentru valorificarea viitoare a terenurilor marginale, neutilizate sau contaminate, vom prezenta rezultatele analizelor de sustenabilitate pentru mai multe proiecte și lanțuri valorice pretabile pentru aceste terenuri (realizate cu ajutorul instrumentului informatic STEN).

Pentru unul dintre aceste proiecte analizate, care are potențial pentru a fi dezvoltat în regiune, partenerii BIOPLAT-EU au realizat un studiu de oportunitate agronomică și tehnico-economică.

Întâlnirea este organizată de către partenerul român în proiectul BIOPLAT-EU, **Centrul pentru Promovarea Energiei Curate și Eficiente în România – ENERO,** cu sprijinul și participarea primăriilor comunelor **Măgura și Strugari, al orașului Buhuși, al Asociației G.A.L. Ulmus Montana și al Centrului de Transfer Tehnologic "Digital&Smart Hub PETAL.**

Pentru confirmarea participării și informații suplimentare, vă rugăm să o contactați pe dna Nicoleta ION (email: nicoleta.ion@enero.ro, tel: 0724 294 616)

Cu aleasa consideratie,

Mihai Cristian ȚÎNȚĂREANU,

Director executiv ENERO

Acest Proiect (Contract nr. 818083) este co-finanțat de către Programul Cadru al Uniunii Europene Orizont 2020

7.3 Agenda

The Agenda in EN and RO is presented below:

AGENDA

ROUND TABLE

FOR ECONOMIC RECOVERY OF MARGINAL, UDERUTILZED OR CONTAMINATED LAND THROUGH BIOENERGY PROJECTS"

Event organized with the support and participation of:

Măgura Municipality

Strugari Municipality

Buhusi Municipality

Association G.A.L. Ulmus Montana

Technological Transfer Centre "Digital&Smart Hub PETAL

Date: 21 September 2021

Place: Pensiunea Cattaleya, Bacău-Brasov Km - 15 DN11, 602452

09:30	**9:45**	**Registration of participants**
9:45	**10:00**	*Welcome speeches* Vasile ROTARIU, Mayor of STRUGARI Iordache COSTRĂȘ, Mayor MĂGURA Mihai Cristian ȚÂNȚĂREANU, EXECUTIVE DIRECTOR ENERO
10:00	***11:30***	***Prezentations***
		The results of the BIOPLAT-EU project. Maps of marginal, underutilised and contaminated land in Romania and in Bacau County Nicoleta ION, ENERO (25') *Analysis of value chains for the production of bioenergy on MUC lands* 1. Demonstration IT tool for assessing the sustainability of projects for biomass cultivation for energy on MUC lands

Acest Proiect (Contract nr. 818083) este co-finanțat de către Programul Cadru al Uniunii Europene Orizont 2020

		2. Application for the selected project in Bacau County (area Buhusi-Strugari-Blăgești) 3. Preliminary economic assessment for the selected project (area Buhusi-Strugari-Blăgești) Mihai Cristian ȚÂNȚĂREANU, ENERO (40')
		Financing opportunities Maria Raluca NĂSTASE, Director OJFIR Bacău Nicoleta ION, ENERO
11:30	*11:45*	***Coffee break***
11:45	*12:45*	***DISCUSSIONS:*** *Opportunities and challenges brought by the use of MUC lands for the cultivation of biomass for energy*
12:45	*13:15*	*Conclusions and final discussions on possible projects to be implemented in Bacău county* Mihai Cristian Țânțăreanu, ENERO
13:15	*14:15*	***Lunch and informal discussions among participants***

14:15	*15:15*	*Working Group meeting – Achieved results and next steps*

Acest Proiect (Contract nr. 818083) este co-finanțat de către Programul Cadru al Uniunii Europene Orizont 2020

AGENDA

MASA ROTUNDĂ

"OPORTUNITĂȚI DE VALORIFICARE ECONOMICĂ A TERENURILOR MARGINALE, NEUTILIZATE SAU CONTAMINATE PRIN PROIECTE DE BIOENERGIE"

Eveniment organizat cu sprijinul și participarea:

Primăria comunei Măgura

Primăria comunei Strugari

Primăria orașului Buhuși

Asociația G.A.L. Ulmus Montana

Centrul de Transfer Tehnologic "Digital&Smart Hub PETAL

Data: 21 septembrie 2021

Locul: Pensiunea Cattaleya, Bacău-Brașov Km - 15 DN11, 602452

09:30	**9:45**	**Primirea participanților**
9:45	**10:00**	*Cuvânt introductiv* Vasile ROTARIU, PRIMAR COMUNA STRUGARI Iordache COSTRĂȘ, PRIMAR COMUNA MĂGURA Mihai Cristian ȚÂNȚĂREANU, DIRECTOR EXECUTIV ENERO
10:00	***11:30***	***Prezentări***
		Rezultatele proiectului BIOPLAT-EU. Hărți ale terenurilor marginale, neutilizate și contaminate în România și în județul Bacău Nicoleta ION, ENERO (25') *Analiza unor lanțuri valorice pentru producerea de bioenergie pe terenuri marginale, neutilizate sau contaminate* 1. Demonstrație Instrument informatic de evaluare a sustenabilității proiectelor de cultivare a biomasei pentru energie pe terenuri marginale, neutilizate sau contaminate

Acest Proiect (Contract nr. 818083) este co-finanțat de către Programul Cadru al Uniunii Europene Orizont 2020

		2. Aplicatie pentru proiectul selectat pentru un teren situat în județul Bacău (zona Buhuși-Strugari-Blăgești) 3. Analiza oportunitate pentru proiectul selectat (zona Buhuși-Strugari-Blăgești) Mihai Cristian ȚÂNȚĂREANU, ENERO (40')
		Oportunități de finanțare Maria Raluca NĂSTASE, Director OJFIR Bacău Nicoleta ION, ENERO
11:30	*11:45*	*Pauza de cafea*
11:45	*12:45*	*DISCUȚII:* *Oportunități și provocări aduse de utilizarea terenurilor marginale, neutilizate sau contaminate pentru cultivarea de biomasă pentru energie*
12:45	*13:15*	*Concluzii și discuții finale despre proiecte posibil de implementat în județul Bacău* Mihai Cristian Țânțăreanu, ENERO
13:15	*14:15*	*Bufet și discuții informale între participanți*

14:15	*15:15*	*Întâlnirea Grupului de Lucru – Rezultate obținute până în prezent și activități viitoare*

7.4 Summary of presentations and discussions

The workshop participants were welcomed by the mayors of the two supporting municipalities – Strugari and Magura who declared their interest in the project's results, as their communes own plots that are not fertile.

Mrs Nicoleta Ion and Mr, Cristian Tintareanu held presentations on the BIOPLAT-EU project and its results that are of interest for the case study area.

The general information about the project framework, general and specific objectives were presented by Mrs Nicoleta Ion. Also, information about MUC land map in Bacau County was presented, with the help of the STEN tool.

Mr Cristian Tintareanu presented some value chains possible to be implemented in the Bacau area.

The representative of HIDROELECTRICA and the mayor of Strugari stressed out that besides the land of former Racova lake (where the feasibility study was developed by the BIOPLAT-EU partners), some other surfaces of terrains could be identified in the area and a bigger project could be developed. They also mentioned the possibility that HIDROELCTRICA would give the above-mentioned plot (former Racova lake) to the municipalities in the area for administration or in ownership, in this case a biomass for energy project could be easier put in practice.

A discussion started on the use of MUC lands: pros and cons of biomass projects versus PV projects. It was concluded that biomass projects on MUC are using the lands in a much more environmentally friendly manner, while the PV projects are charging the terrain with concrete infrastructures.

Interesting opportunities could be brought by the new financing period, which has as a main goal the development of new renewable projects.

Some STEN simulations were performed, with various types of cultures and various technologies for producing bioenergy. Private landowners asked to do simulation on their own plots of lands, and discussed about the crops suitable for cultivation and their productivity.

After that, discussions were oriented to financing opportunities. Mrs. N. Ion presented the general framework of the new opportunities brought by the National Recovery and Resilience Plan and the structural funds.

Because of the last hour worsening of the COVID situation, an invited and confirmed speaker from the County Office for Financing the Rural Investments was not able to participate, but

Nicoleta Ion presented some basic aspects and encouraged the farmers to address questions to the Office for Financing the Rural Investments.

After the break we discussed about the projects that could be implemented in Bacau area.

Farmers were interested in information on special conditions for growing energy crops mentioned during the presentation. Some technical aspects were presented by the representatives of the Agricultural Directorate Bacau and Office of Pedological and Agrochemical Studies Bacau.

A short video movie (https://www.youtube.com/watch?v=GMPsGwlJ4SA) on a 3 MW biogas from energy crops project in operation in Moara municipality, Suceava county, Romania was presented, as it is similar to the feasibility study performed within BIOPLAT project.

7.5 Conclusions

- The STEN tool is interesting and useful. Farmers asked to verify if their plots are detected as underutilized or not.
- Not many underutilized surfaces exist in Bacau County, but there are still some surfaces that can be used for biomass for energy projects
- General information of land available could be obtained by using the STEN tool, but the real situation should be verified on spot. Also, other parameters (like crop productivity) are to be verified and adjusted by local experts
- Some types of plants suggested by the STEN are not cultivated in the area, and this could be a barrier. Farmers did not know for example that there are some energy crops that are eligible for the simplified direct payment scheme for small farmers. In general, the farmers are not familiar about the energy crops option to cultivate a land.
- There is a communication gap between agriculture experts/farmers and energy experts.

8 Workshop in Gorj County, Romania

8.1 Introduction

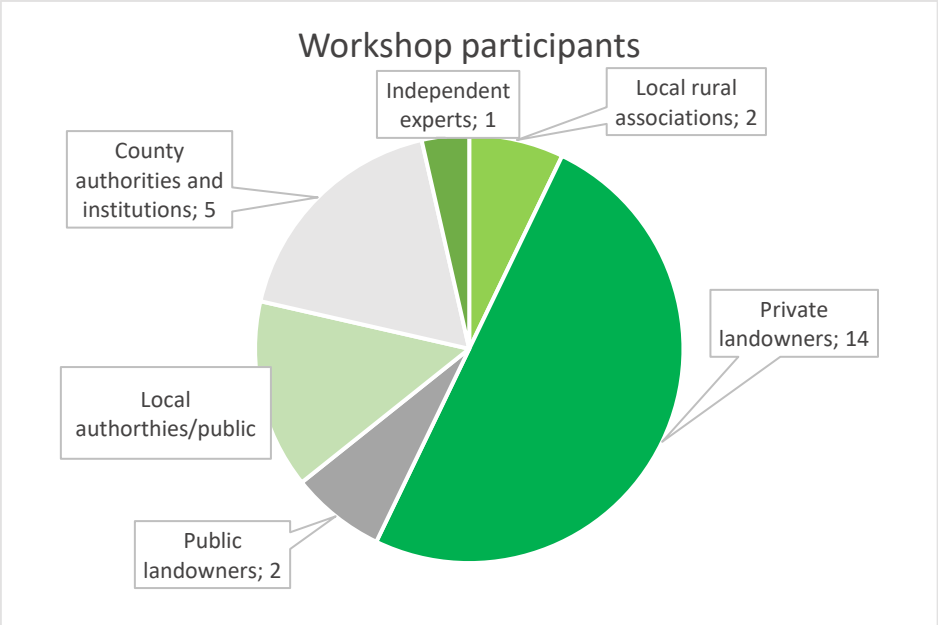
The workshop for private and public landowners from the case study area Gorj County (Romania) took place in Turceni municipality on the 24th of June 2021, between 9:30-14:15. Turceni is a locality within the area investigated for the case study Gorj, addressing former mining areas, available now for energy crops. One of the largest coal-fired power plant belonging to Energy Complex Oltenia is located In Turceni.

The event was organized in physical format, despite some inherent difficulties and additional efforts under the COVID 19 conditions. It was considered that a physical format will serve better to the objectives of the event. Also, the access to the online facilities would have been limited for some farmers.

Participants belonged to the following main categories:

- Working group members (WGM)
- Energy Complex Oltenia – the main employer in the area, which operates three coal-fired power plants and lignite mining areas. This company is actually the main underutilized landowner in the county
- Representatives of municipalities that own lands affected by mining activities over the years. In some cases, municipalities own these plots, in other cases the land property is not clarified.
- Private landowners
- Other organizations or public institutions

Among 28 participants, a number of 14 are private landowners and 6 are representatives of public landowners.



The table below includes the list of participants.

	Participant	Organisation	Stakeholder category
1	FOMETESCU Gheorghe	Independent	Environmental expert, WGM
2	TARBINA Ileana	Local Action Group (GAL)[1] Amaradia-Gilort-Oltet	Other - Association of local public and private organizations in rural areas
3	TARBINA Dragos	UAT[2] Bustuchin	Private Landowner
4	MORARU Constantin	UAT Pesteana Balteni	Private Landowner
5	VELICAN Viorel	Independent	Private Landowner
6	FOTA Octavian	Office of Pedological and Agrochemical Studies Gorj	Local authorities
7	MIHAI Vasile	Mayor – Farcasesti Village	Public Landowner, local authorities
8	BARBOI Bogdan	UAT Balteni	Private Landowner
9	MOISE Simona	County Office for Financing Rural Investments (OJFIR) GORJ	Local authority
10	VLADOIU Grigore	Energy Complex Oltenia	Public Landowner
11	BERCA Marius	Energy Complex Oltenia	Public Landowner
12	TATARU Petre	UAT Balteni	Private Landowner
13	CILIBIU Cristina	Mayor UAT Turceni	Local Authority, Public landowner
14	DRAGUSIN Virgil	Deputy-Prefect, Prefecture Gorj county	County Government representative
15	PREDESCU Diana	GAL Sudul Gorjului	Other – Association of local public and private organizations in rural areas
16	OITA Tudor	Mayor Negomir commune	Public Land owner, local authorities
17	SURCA Victor Daniel	Independent	Private Landowner
18	SAFIE Georgel (?)	UAT Tantareani	Private Landowner
19	PITARU Cristian	UAT Tantareani	Private Landowner
20	BOIANGIU Dan	Independent	Private Landowner
21	BOIANGIU Ion	Independent	Private Landowner
22	MARIOARA Tudor	Independent	Private Landowner
23	VUCEA Elena Claudia	Independent	Private Landowner
24	TROTEA Mihai Catalin	Independent	Private Landowner
25	NEGROIU Vergica	Independent	Private Landowner
26	CALOTA Mihai	Mayor Urdari commune	Public Landowner, local authorities

[1] A Local Action Group is a form of partnership established in a rural area that brings together representatives of the public, private and civil society sectors in that territory, created in order to implement LEADER methods of rural development - Wikipedia

[2] UAT- territorial administrative unit (city, town, commune, village etc)

27	HIREAN Florin	Agricultural Directorate Gorj	Local Agricultural Institution
28	BURADA Gabriel	Regional Development Agency South West Oltenia	Regional Public Association, managing the EU Structural Funds

8.2 Invitation

INVITAȚIE

WORKSHOP "OPORTUNITĂȚI DE VALORIFICARE ECONOMICĂ A TERENURILOR DEGRADATE PRIN PROIECTE DE BIOENERGIE"

Urmare a noilor strategii și planuri europene și naționale dedicate respectării angajamentelor asumate prin **Pactul Verde și Mecanismul de Redresare și Reziliență, regiuni ca județul Gorj devin vulnerabile dar, în același timp, pot fi beneficiarele unor oportunități pentru transformări și evoluții viitoare.**

Odată cu încheierea activității miniere, suprafețe importante de teren se vor reîntoarce la menirea lor inițială, dar mare parte din ele nu vor mai fi propice pentru culturi agricole convenționale, dedicate obținerii hranei sau furajelor.

In acest context, proiectul **Promovarea utilizării sustenabile a terenurilor neutilizate pentru producerea de bioenergie, prin intermediului unei platforme web pentru Europa", acronim: BIOPLAT-EU (www.bioplat.eu),** derulat in cadrul Programului european de studii și cercetări ORIZONT2020, atrage atenția asupra re-conversiei terenurilor afectate de exploatarea minieră, prin cultivarea de materie primă pentru producerea sustenabilă de bioenergie.

Un rezultat important al proiectului BIOPLAT este realizarea unei platforme web care cuprinde o bază de date de hărți ale terenurilor marginale, neutilizate și contaminare (MNC) și a unui instrument informatic (denumit STEN) care servește la evaluarea aspectelor de sustenabilitate economică, socială și tehnico-economică a proiectelor de obținere a bioenergiei din materie primă cultivată pe terenuri MNC, pe intregul lant valoric al acestora.

Vă invitam să participați workshopul dedicate acestei tematici care va avea loc în data de 24 iunie 2021, la Turceni, Pensiunea Yda.

Vom discuta despre cele mai bune opțiuni pentru valorificarea viitoare a terenurilor degradate și a celor afectate de exploatarea minieră, vom prezenta rezultatele analizelor de sustenabilitate pentru mai multe proiecte și lanțuri valorice pretabile pentru aceste terenuri (realizate cu ajutorul STEN).

Dintre mai multe proiecte analizate, vom selecta unul pentru partenerii proiectului vor realiza un studiu de oportunitate agronomică și tehnico-economică, care poate sta la baza unui proiect real dezvoltat în regiune.

Întâlnirea este organizată de **către partenerul român în proiectul BIOPLAT-EU, Centrul pentru Promovarea Energiei Curate și Eficiente în România – ENERO, cu sprijinul primăriei orașului Turceni.**

Pentru confirmarea participării și informații suplimentare, vă rugăm să o contactați pe dna Nicoleta ION (email: nicoleta.ion@enero.ro, tel: 0724294616) sau pe dl. Gheorghe FOMETESCU (email: gheorghe_fometescu@yahoo.com, tel: 0720544011).

Cu aleasa consideratie,

Mihai Cristian ȚÎNȚĂREANU,

Director executiv ENE

Acest Proiect (Contract nr. 818083) este co-finanțat de către Programul Cadru al Uniunii Europene Orizont 2020

8.3 Agenda

The Agenda in EN and RO is presented below:

Primăria Orașului Turceni
Județul Gorj

AGENDA

WORKSHOP "OPPORTUNITIES FOR ECONOMIC RECOVERY OF MINING LAND THROUGH BIOENERGY PROJECTS"

Date: 24 June 2021

Place: Pensiunea Yda, Strada Iancu Popilian 1A, Turceni 217520

09:30	**9:45**	**Registration of participants**
9:45	**10:00**	*Welcome speeches* Mrs. Cristina CILIBIU – Mayor of Turceni City Mr. Mihai Cristian ȚÂNȚĂREANU, Executive Director of ENERO
10:00	***11:30***	***Prezentations***
		The results of the BIOPLAT-EU project. Maps of marginal, underutilised and contaminated land in Romania and in Gorj County Nicoleta ION, ENERO (25') *Analysis of value chains for the production of bioenergy on mining lands* 1. Demonstration IT tool for assessing the sustainability of projects for biomass cultivation for energy on degraded mining lands 2. Application for the selected project 3. Preliminary economic assessment for the selected project Mihai Cristian ȚÂNȚĂREANU, ENERO (40') *Financing opportunities* Gabriel BURADA – ADR Oltenia *(25')*

Acest Proiect (Contract nr. 818083) este co-finanțat de către Programul Cadru al Uniunii Europene Orizont 2020

11:30	*11:45*	***Coffee Break***
11:45	*12:45*	***DISCUSSIONS:*** *Opportunities and challenges brought by the use of degraded lands in the mining and energy industry in the Oltenia area, for the cultivation of biomass for energy*
12:45	***13:15***	*Conclusions and final discussions on possible projects to be implemented in the Oltenia region and definition of input data for the feasibility study* Mihai Cristian Țânțăreanu, ENERO
13:15	***14:15***	***Lunch and informal discussions among participants***

14:15	***15:15***	*Working Group meeting – Achieved results and next stepts*

Acest Proiect (Contract nr. 818083) este co-finanțat de către Programul Cadru al Uniunii Europene Orizont 2020

AGENDA

WORKSHOP "OPORTUNITĂȚI DE VALORIFICARE ECONOMICĂ A TERENURILOR DEGRADATE PRIN PROIECTE DE BIOENERGIE"

Data: 24 iunie 2021

Locul: Pensiunea Yda, Strada Iancu Popilian 1A, Turceni 217520

09:30	**9:45**	**Primirea participanților**
9:45	**10:00**	*Cuvânt introductiv* Mihai Cristian ȚÂNȚĂREANU, DIRECTOR EXECUTIV ENERO
10:00	***11:30***	***Prezentări***
		Rezultatele proiectului BIOPLAT-EU. Hărți ale terenurilor marginale. neutilizate și contaminate în România și în județul Gorj Nicoleta ION, ENERO (25') *Analiza unor lanțuri valorice pentru producerea de bioenergie pe terenuri miniere degradate* 1. Demonstrație Instrument informatic de evaluare a sustenabilității proiectelor de cultivare a biomasei pentru energie pe terenuri miniere degradate 2. Aplicatie pentru proiectul selectat 3. Evaluare economica preliminară pentru proiectul selectat Mihai Cristian ȚÂNȚĂREANU, ENERO (40')
		Oportunități de finanțare Gabriel BURADA – ADR Oltenia *(25')*

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11:30	*11:45*	***Pauza de cafea***
11:45	*12:45*	***DISCUȚII:*** *Oportunități și provocări aduse de utilizarea terenurilor degradate din industria minieră și cea energetică din zona Oltenia, pentru cultivarea de biomasă pentru energie*
12:45	*13:15*	*Concluzii și discuții finale despre proiecte posibil de implementat în regiunea Oltenia și definirea datelor de intrare pentru studiul de fezabilitate* Mihai Cristian Țânțăreanu, ENERO
13:15	*14:15*	***Bufet și discuții informale între participanți***

14:15	*15:15*	*Întâlnirea Grupului de Lucru – Rezultate obținute până în prezent și activitîți viitoare*

Acest Proiect (Contract nr. 818083) este co-finanțat de către Programul Cadru al Uniunii Europene Orizont 2020

8.4 Summary of presentations and discussions

The workshop participants were welcomed by the deputy Prefect of Gorj County, Mr Virgil Dragusin, who told that the valorisation of underutilised land for bioenergy projects is an interesting idea, and is a good opportunity to use the funds from the new financing period, especially that Gorj County belongs to areas of interest within the Operational Programme for Just Transition.

The Deputy Prefect of the Gorj County welcoming the participants in a keynote speech

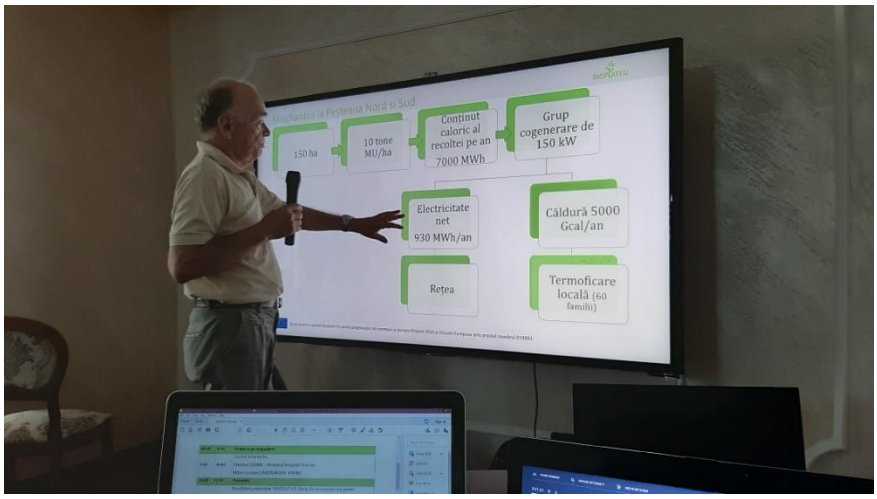
Mrs Nicoleta Ion and Mr Cristian Tintareanu held presentations on the BIOPLAT-EU project and its results that are of interest for the case study area.

The general information about the BIOPLAT-EU project framework, general and specific objectives were presented by Mrs Nicoleta Ion. Also, information about MUC land map in Gorj County was presented, with the help of the STEN tool. Participants stressed out again that the main problem is to clarify the ownership of the plots identified by the tool. Another general accepted issue is that after identifying a land on the map, the real status should be verified on spot.

Presentation of the project's objectives and results

Mrs Cristian Tintareanu presented some value chains possible to be implemented in the Gorj area MUC lands. The representatives of Energy Complex Oltenia (CEO) stated that in the past CEO had some attempts to crop and use Miscanthus for co-firing with lignite, but after the establishments of the Miscanthus culture, the projects didn't go further.

Mr. Tantareanu sustained the idea of taking into consideration this opportunity, as a part of fulfilment of the environmental obligations of CEO, after ceasing the mining activity. It was also underlined that, despite the ambitious goals of CEO of using the affected land for PV projects, not all surfaces will be used for that, and biomass for energy projects could be a good alternative.



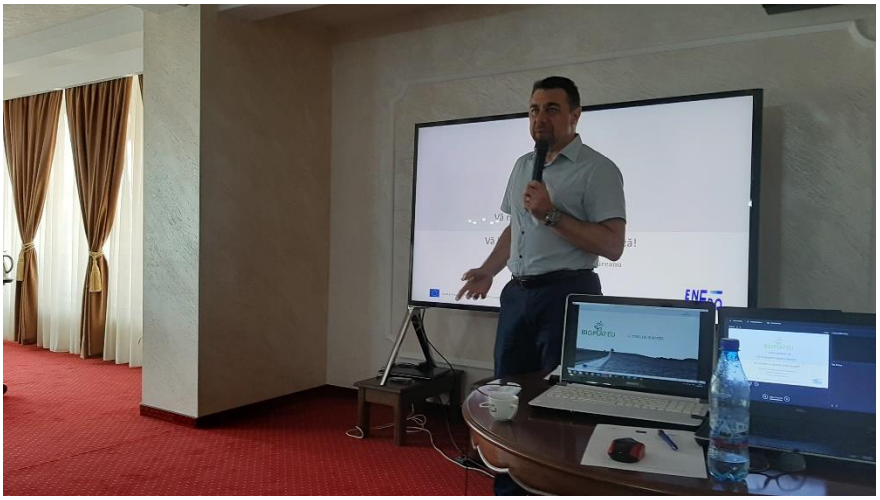
Value Chains presentation

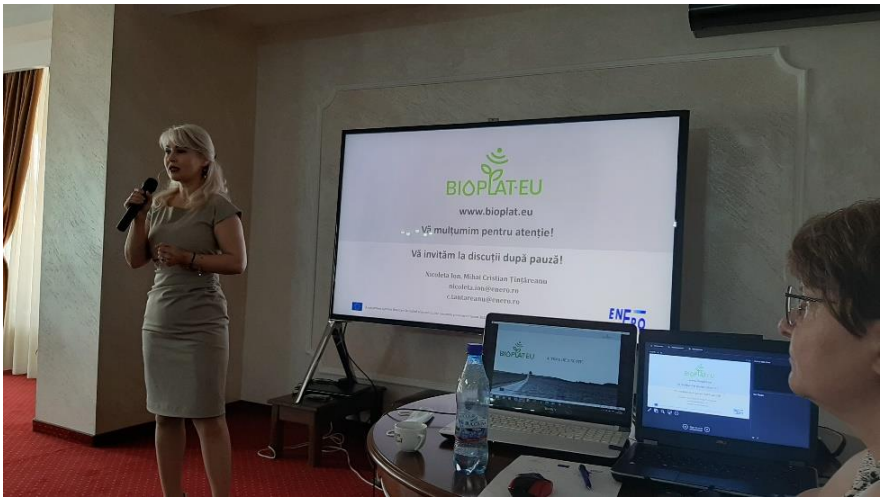
The STEN simulation was performed, with one example of crop on a selected land (Pesteana dump) and on a single value chain (miscanthus-solid-CHP). The audience welcomed the friendly access to the tool by a Romanian translation and commented on the possible yield on the MUC terrains in the area.

After that, discussions were oriented to financing opportunities for energy crops projects. Mrs. N. Ion presented the general framework of the new opportunities brought by the National

Recovery and Resilience Plan and the Just Transition facility. Structural funds could be accessed as well.

The workshop benefited of two interventions on financing opportunities, held by a representative of the Regional Development Agency South West Oltenia, that manages the regional Development Programme and from the Executive Director of the County Office for Financing Rural Investments (OJFIR) GORJ.





Presentations on financing opportunities (up: Mr Burada – Regional development Agency; down: Mrs. Moise - Director of the County Office for Financing Rural Investments)

After the break we discussed about the projects that could be implemented in Gorj area. As there is some previous local experience with Miscanthus, the main idea that came up was the cultivation of miscanthus and then its use in a new built CHP.

Farmers were interested in information on special conditions for growing energy crops and how could they benefit from supplementary support if they decide for this kind of culture.

8.5 Conclusions

- The STEN tool is interesting, useful and friendly. Farmers asked to verify if their plots are detected as underutilized or not.
- Underutilized land in Gorj is mainly affected by the mining industry, now in a process of closure
- General information of land available could be obtained by using the STEN tool. Local expertise is also necessary.
- Users should verify carefully inputs, mainly the crop yield, in order to obtain results as reliable as possible
- Some types of plants suggested by the STEN are not known in the area. Farmers could be open to find out more.
- There is a gap between agriculture experts/farmers and energy experts.
- There is a certain resistance on changing the traditional way of cultivating land and also on shifting from fossil fuel to renewable energies

9 Workshop in Spain

9.1 Introduction

This workshop was held on October 15th, 2021. The duration was from 12:00 to 14:00. The list of participants is shown in the table below.

First Name	Last name	Organization	Stakeholder category	Observations
Gabriel	Lodares	ELO Spain	Private Landowner	ELO Board membership
Luis	Villanueva	ELO Spain	Private Landowner	ELO Spain President
Joaquín	Rodriguez	MAPA	Public Administration	Senior Adviser. Ministerio de Agricultura
Margarita Antonio Eva	Saiz Callaba Castillo	MITECO	Public Administration	Ministerio de Transición Ecológica y Reto Demográfico. Subdirección General de Economía Circular
Paz	Fentes	MAPA	Public Administration	Subdirectora General de Cultivos Herbáceos
Rocío	Wojski	MAPA	Public Administration	Subdirectora General de Innovación y Digitalización
Guillermo	Fernandez	MAPA	Public Administration	Subdirector General de Política Forestal y Lucha contra la desertificación
Andrés	Cuesta	AgriSat	Industry	Former responsible of renewable energy regional agency AGECAM.
Victor	Marcos	IDAE	Public Administration	Instituto Para la Diversificación y Ahorro de Energía
Julio	Artigas	IDAE	Public Administration	Departamento de Bioenergía y Residuos de la Dirección de Energías Renovables y Mercado Eléctrico
Jordi	Aguiló	APPA	Industry	Asociación de Empresas de Energías Renovables
Alvaro	Mitjans	APPA	Industry	Asociación de Empresas de Energías Renovables
MLlanos	Lopez	AgriSat	Landowner	Manager of farm
Julio	Villodre	AgriSat	Landowner	Manager of farm
Milagros	Alfaro	AgriSat	Industry	Adviser of Irrigation

Carmen	Plaza	AgriSat	Industry	Adviser of Irrigation
Joaquín	Oltra	ERTA	Industry	Manager, electricity energy plant by burning residues
Alfonso	Calera	UCLM	University	Researcher/Organizer
David	Cifuentes	UCLM	University	Researcher/Organizer
Raul	Moreno	UCLM	University	Researcher/Organizer
Alejandro	Simon	UCLM	University	Researcher
Antonio	Quintanilla	UCLM	University	Researcher
Jaime	Campoy	UCLM	University	Researcher
Yeray	Perez	UCLM	University	Researcher

9.2 Invitation

The following invitation was sent to a list of stakeholders:

"Proyecto Europeo BIOPLAT-EU. INVITACIÓN WORKSHOP " BIOCOMBUSTIBLES", 15 DE OCTUBRE DE 2021, 12:00; ONLINE VÍA TEAMS
Querido amigo:
Tengo el gusto de invitarle a participar en el workshop " BIOCOMBUSTIBLES EN TIERRAS MARGINALES, INFRAUTILIZADAS Y CONTAMINADAS EN ESPAÑA", a celebrar online vía Teams el próximo día 15 de Octubre, Viernes, a las 12:00.
Este workshop está organizado por la Universidad de Castilla La Mancha, UCLM, como socio en España del proyecto europeo BIOPLAT-EU, https://bioplat.eu/, -Un vídeo corto en https://www.youtube.com/watch?v=lx4BcteB4hs -.
El proyecto BIOPLAT-EU promueve la producción sostenible de biomasa para bioenergía en tierras marginales, infrautilizadas y contaminadas, MUC, (Marginal, Underutilized and Contaminated), en Europa y en países vecinos.
Para acceder a la jornada, pulse el enlace:
https://teams.microsoft.com/l/meetup-join/19:meeting_OTRiOTI4M2MtZTdlNS00YzVlLWJiY2ItZmZlNmQ5YTU3Mzlh@thread.v2/0?context=%7B%22Tid%22:%22c42cbae6-61f4-498c-9107-6a8cf5f01e56%22,%22Oid%22:%2205f56487-6f7e-4e2e-966f-3feef679ebce%22%7D
Esperamos contar con su valiosa participación,
Cordiales saludos
Alfonso Calera
Más sobre el proyecto BIOPLAT-EU
Un vídeo corto https://www.youtube.com/watch?v=lx4BcteB4hs.
https://cordis.europa.eu/project/id/818083/es
https://bioplat.eu/ "

9.3 Agenda

The agenda of the meeting was the following:

12:00 El Proyecto BIOPLAT-EU. Cosette Khawaja, Coordinadora del Proyecto. WIP Energy; Marco Colangeli FAO Roma.
12:15 La herramienta BIOPLATwebGIS. Alfonso Calera, David Cifuentes UCLM.
"la herramienta BIOPLATwebGIS proporciona información sobre las tierras MUC y los cultivos para producir bioenergía, y permite evaluar los aspectos ambientales, sociales y tecnológicos, así como la sostenibilidad económica de la cadena de valor en la ruta desde el cultivo hasta la planta de procesamiento y producción de energía".
12:45 Apertura del debate. Modera: Andrés Cuesta. AgriSat
14:00 Clausura

9.4 Summary of presentations and discussions

As the agenda shows, the first part of the meeting was a brief introduction to the project by Marco Colangeli from FAO. Next, David Cifuentes and Alfonso Calera, from UCLM, presented the BIOPLAT-EU webGIS tool live, following the process from the definition of a Biomass Production Site and the Biomass Processing Plant, according to the different bioenergy pathways for the selected crops. Finally, the values of the variables that define the socioeconomic and environmental indicators were calculated.

Later, Andrés Cuesta, a former expert in renewable energies and currently working at AgriSat, a company interested in bioenergy crops, began a lively debate about the expectations regarding the use of biofuels in the current environment in Spain. Another key point of the debate was the use of the BIOPLAT-EU webGIS tool for the evaluation of biofuel production. Several interventions by the audience were shaping the different elements that come together in the production and exploitation of biofuels.

9.5 Conclusions

In Spain, it appears that there is a low deployment on the biomass processing plants for energy production. The main reason for that could be the difficulty to sell the energy produced, pouring it into the electrical network. Probably, a change in the law could be required to modify the unfavourable current legal status for the access to the electrical network of biofuel producers, giving legal security for long lasting investments to farmers and investors. Additional barriers come from the expected low yield per unit area due both low rainfall and poor soil quality, raising some environmental issues in using these areas for cropping. Some abandoned agricultural areas could be suitable for cropping biofuel, although these areas are very fragmented, with difficult accessibility and receive subsidies from CAP.

Crops like camelina, suitable for producing biofuel after an oil transformation process, can be cultivated as a part of a typical three-year crop rotation, even as the main crop. But transformation of camelina seeds into biodiesel faces barriers due the low revenues for the

current low price of biodiesel, as the bankability study indicates (see deliverable D6.4). Increasing the biodiesel price could boost the cultivation of this oil crop, and so, the investment required for a processing plant. The current very high prices for electricity and the increasing energy demand, together with the fight against climate change curbing CO2 emissions, could open room for this type of crops in the future.

As a short summary, we can state the following:

- Although currently some suitable crops for biofuel like camelina are running low for profitability, increasing demand of energy and low-carbon emissions in future scenarios could open room for this type of oil crops for bioenergy purposes.
- A change in the Spanish law could be required to modify the unfavourable current legal status for the access to the electrical network of the biofuel producers, giving legal security for long lasting investments to farmers and potential investors
- The delimitation of the areas under marginal, underutilized and contaminated categories requires some refining process for overcoming environmental issues in the transformation of these areas into cultivated fields.

10 Workshop in Khmelnytskyi and Ternopil, Ukraine

10.1 Introduction

The workshop in Khmelnytskyi and Ternopil regions was held on September 21, 2021, virtually due to restrictions related to the COVID-19 pandemic. More than 40 participants out of 45 registered attended the workshop. More than 200 people were able to join the online broadcast via Facebook, as well as view the recording after the event. The workshop participants were representatives of local authorities (OTG, city, village and settlement councils) of Khmelnytsky and Ternopil regions, as well as of representatives of the Khmelnytsky Region State Administration, the State Agency for Energy Efficiency, private landowners, development companies, small and medium-sized businesses, scientists and consultants who work or intend to work in the region.

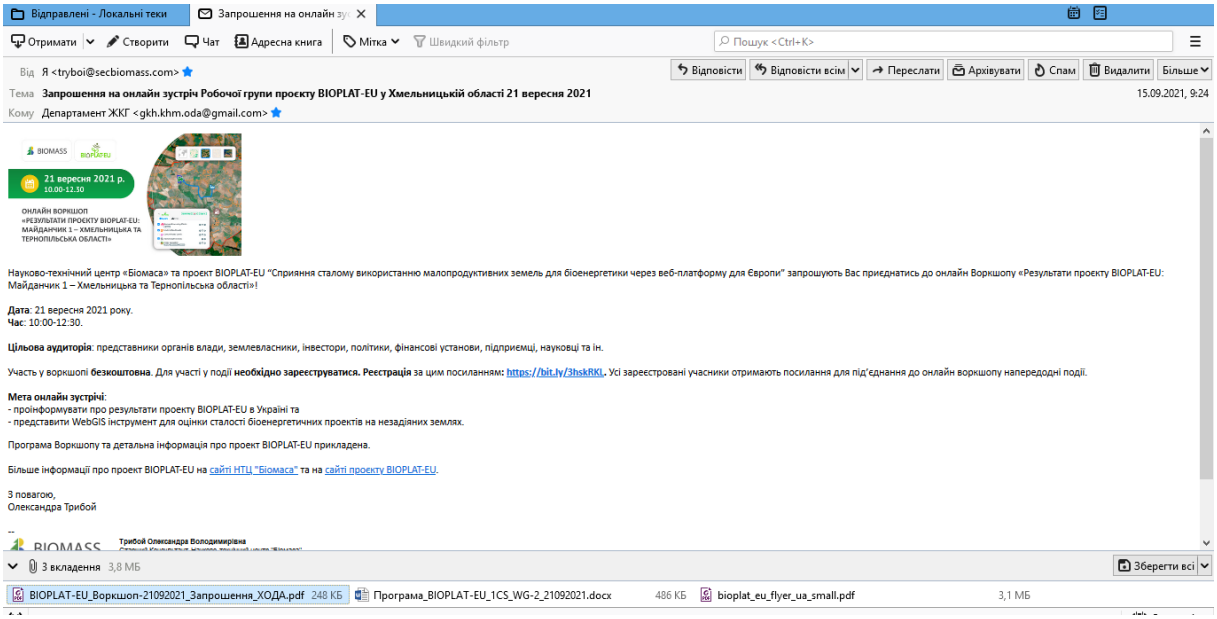
The purpose of the workshop was to present the results of the BIOPLAT-EU project to local stakeholders and to present a WebGIS tool for assessing the sustainability of bioenergy projects on unused lands (unproductive, degraded, contaminated). The list of participants are shown in the table below.

Member name	Organisation	Stakeholder category
Savchuk Katerina	Khmelnytsky Region Regional Development Agency	Consultant
Rutkovska Olena	Khmelnytsky Region Regional Development Agency	Consultant
Leliakov Hennadii	Vognyk Energy Production Cooperative	Small and medium business
Geletukha Georgii	Bioenergy Association of Ukraine	Researcher, Association
Gud Victor	Husiatyn village council	Local authority, Researcher
Ilnytsky Peter	Hukivka village territorial community	Local authority
Sakal Oksana	DU IEPSR NASU	Private landowner, Scientist
Dragniev Semyon	IET NASU	Researcher
Prokopenko Katerina	Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine	Researcher

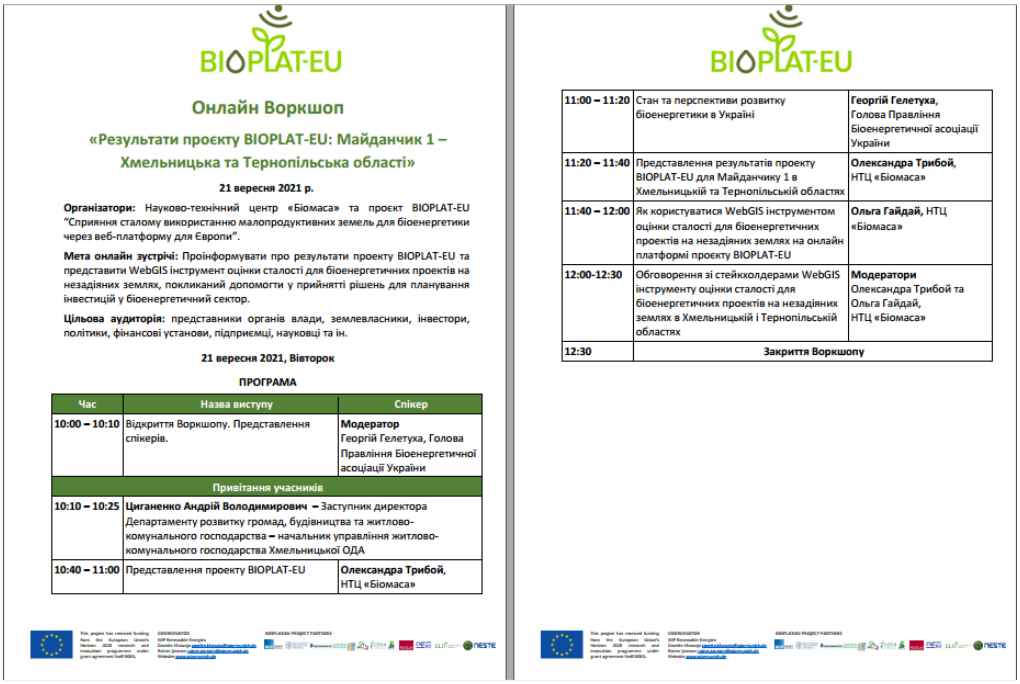
Tregub Alexander	VK Institute of Economic and Legal Research Mamutov NAS of Ukraine	Researcher
Brigada Olena	National University of Civil Defense of Ukraine	Researcher
Kushnir Stepan	NGO "Khmelnytsky Energy Cluster"	Consultant, Development Company
Babayev Maxim	GetMarket	Consultant
Kulichkova Ganna	IFBG	Researcher
Volvach Oksana	Odessa State Ecological University	Researcher
Nepotas Roman	Theophipol village council	Local authority
Tryboi Oleksandra	SEC BIOMASS	Consultant
Yeremenko Alexander	NUBIP of NAAS	Researcher
Ostrovskaya Nile	Krasyliv City Council	Local authority
Datsyuk Vita	Volochysk City Council	Local authority
Sybiga Natalia	Department of Ecology and Landscaping Control of Khmelnytsky City Council	Local authority
Panchuk Lyudmila	Starosinyavska village council	Local authority
Dsiuba Natalia	Starosinyavska village council	Local authority
Oliynyk Olena	Izyaslav City Council	Local authority
Zarudenska Lyudmila	Shchyboriv village council	Local authority
Tonka Hanna	Executive Committee of Netishyn City Council	Local authority
Lazorko Pavlo	LLC Group of companies INFRASPHERA	Supplier, manufacturer of energy equipment
Belozerova Larisa	media	information support
Plekanets Natalia	Khmelnytsky City Council	Local authority
Lenska Olena	SAEE	National authority
Moskalyuk Andrii	Myrolyubne village council	Local authority
Gotfrid Alina	Medzhibizka village council	Local authority

Tsyganenko Andriy	Khmelnytsky Region State Administration	Regional authority
Solovei Natalia	Antonina village council	Local authority
TYMCHUK Anatoliy	Staroushytsia village council	Local authority
Sinnyi Andrii	Letychiv village council	Local authority
Trach Denys	Orynynska OTG	Local authority
Nakonechna Galyna	Hrytsivka village council	Local authority
Ordynsky Vladislav	Sudylkivska village council	Local authority
Mudra Irina	Dunaevets City Council	Local authority
Datsyuk Vita	Volochysk city council	Local authority
Oziychuk Julia	Krasyliv City Council	Local authority
Matyushko Vyacheslav	Berezdivska village council	Local authority
Koshan Lesya	Yarmolynets village council	Local authority
Lagutina Natalia	SAEE	National authority

10.2 Invitation



10.3 Agenda



Онлайн Воркшоп

«Результати проєкту BIOPLAT-EU: Майданчик 1 – Хмельницька та Тернопільська області»

21 вересня 2021 р.

Організатори: Науково-технічний центр «Біомаса» та проєкт BIOPLAT-EU "Сприяння сталому використанню малопродуктивних земель для біоенергетики через веб-платформу для Європи".

Мета онлайн зустрічі: Проінформувати про результати проекту BIOPLAT-EU та представити WebGIS інструмент оцінки сталості для біоенергетичних проектів на незадіяних землях, покликаний допомогти у прийнятті рішень для планування інвестицій у біоенергетичний сектор.

Цільова аудиторія: представники органів влади, землевласники, інвестори, політики, фінансові установи, підприємці, науковці та ін.

21 вересня 2021, Вівторок

ПРОГРАМА

Час	Назва виступу	Спікер
10:00 – 10:10	Відкриття Воркшопу. Представлення спікерів.	**Модератор** Георгій Гелетуха, Голова Правління Біоенергетичної асоціації України
Привітання учасників		
10:10 – 10:25	**Циганенко Андрій Володимирович –** Заступник директора Департаменту розвитку громад, будівництва та житлово-комунального господарства – начальник управління житлово-комунального господарства Хмельницької ОДА	
10:40 – 11:00	Представлення проекту BIOPLAT-EU	**Олександра Трибой**, НТЦ «Біомаса»

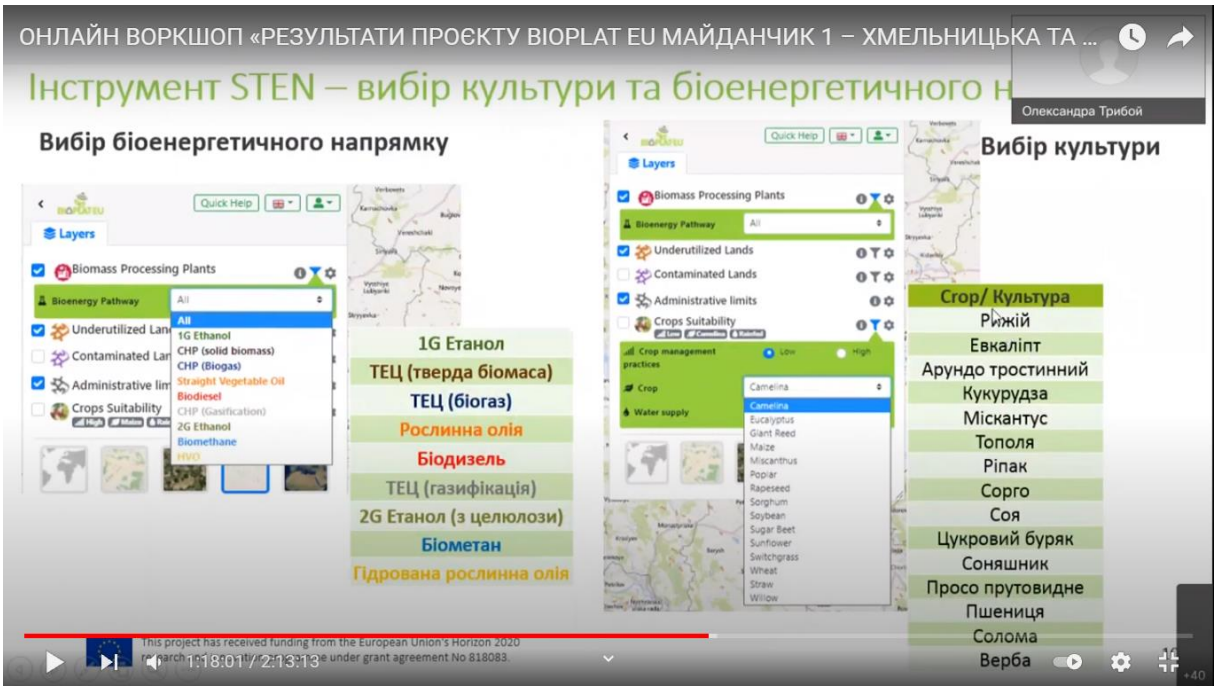
11:00 – 11:20	Стан та перспективи розвитку біоенергетики в Україні	**Георгій Гелетуха**, Голова Правління Біоенергетичної асоціації України
11:20 – 11:40	Представлення результатів проекту BIOPLAT-EU для Майданчику 1 в Хмельницькій та Тернопільській областях	**Олександра Трибой**, НТЦ «Біомаса»
11:40 – 12:00	Як користуватися WebGIS інструментом оцінки сталості для біоенергетичних проектів на незадіяних землях на онлайн платформі проекту BIOPLAT-EU	**Ольга Гайдай**, НТЦ «Біомаса»
12:00-12:30	Обговорення зі стейкхолдерами WebGIS інструменту оцінки сталості для біоенергетичних проектів на незадіяних землях в Хмельницькій і Тернопільській областях	**Модератори** Олександра Трибой та Ольга Гайдай, НТЦ «Біомаса»
12:30	**Закриття Воркшопу**	

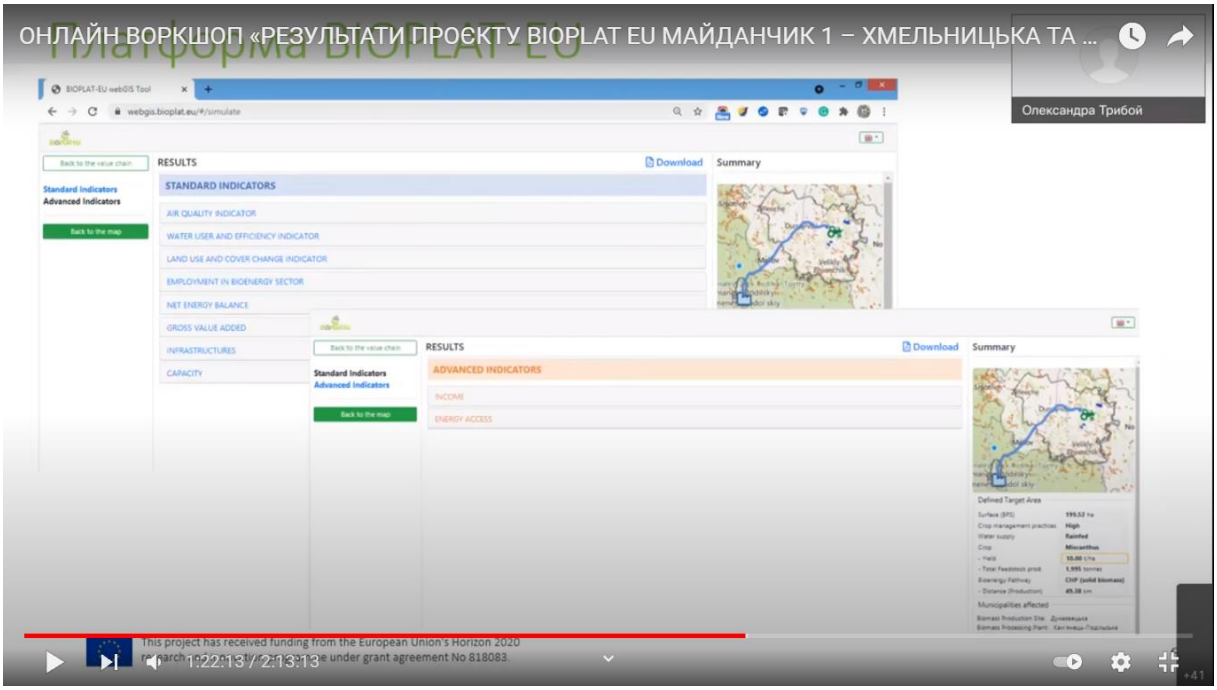
10.4 Summary of presentations and discussions

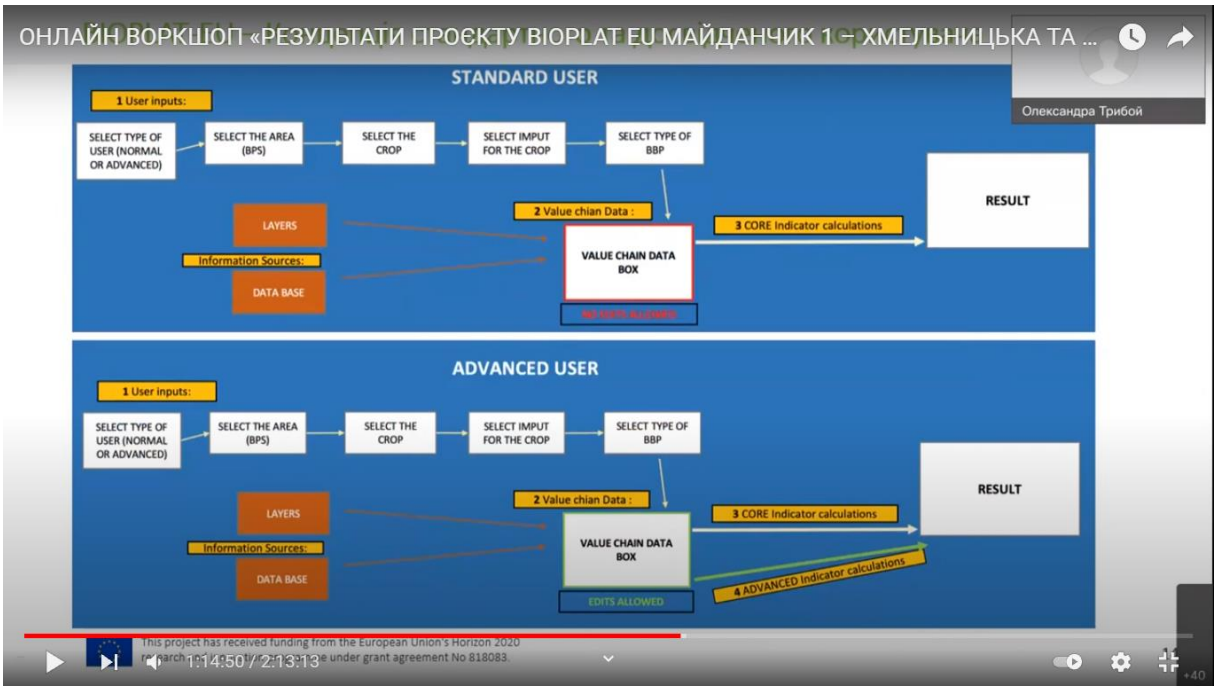
The online workshop was opened by Georgii Geletukha director of SECB and Head of the Board of the UABIO, who spoke about the current state and prospects of bioenergy development in Ukraine given the recent trends in high natural gas prices. Mr Geletukha presented a comparison of the unit cost of energy in traditional energy sources and biofuels and stressed that Ukraine has resources that are many times cheaper per unit of energy than fossil fuels. In this context, the cultivation of energy crops on unused lands - unproductive, degraded, contaminated - is also becoming profitable quite quickly.

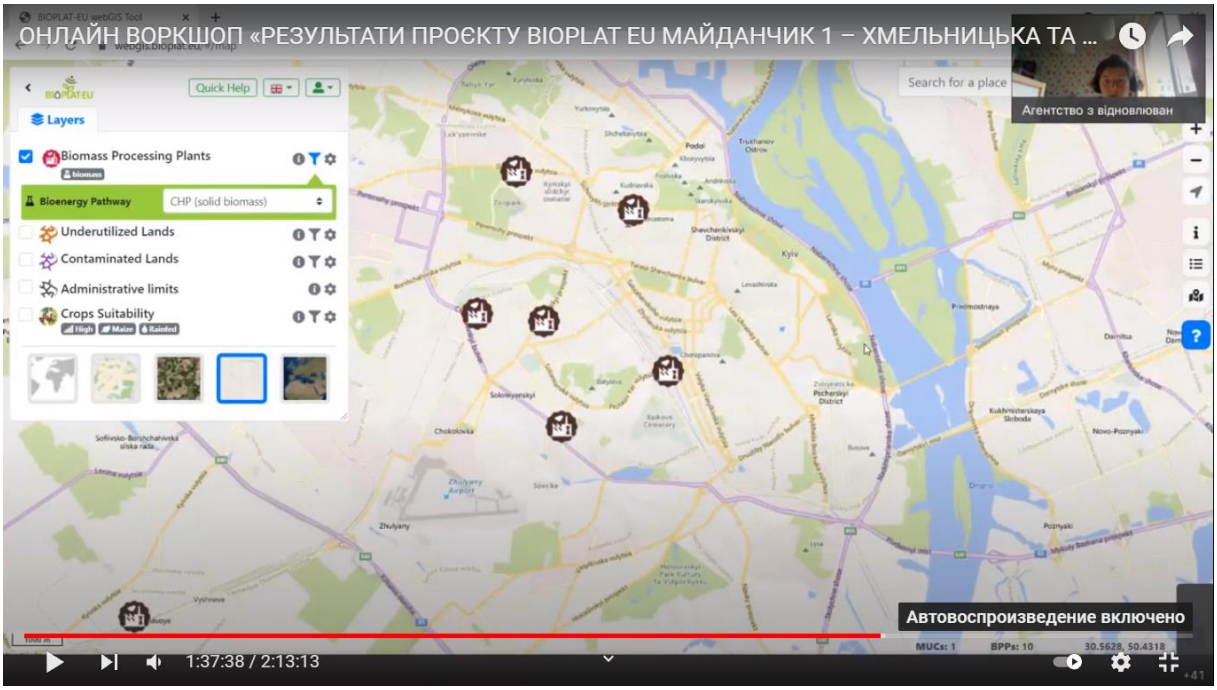
In the main part of the workshop, Oleksandra Tryboi, a senior consultant of the SECB, talked about the overall results of the BIOPLAT-EU project and the development of the webGIS platform with the STEN tool to assess the sustainability of bioenergy projects on underutilized lands. Ms Tryboi informed about the functionalities of the tool, including types of crops and bioenergy pathways and also sustainability indicators that can be assessed by standard and advanced users.

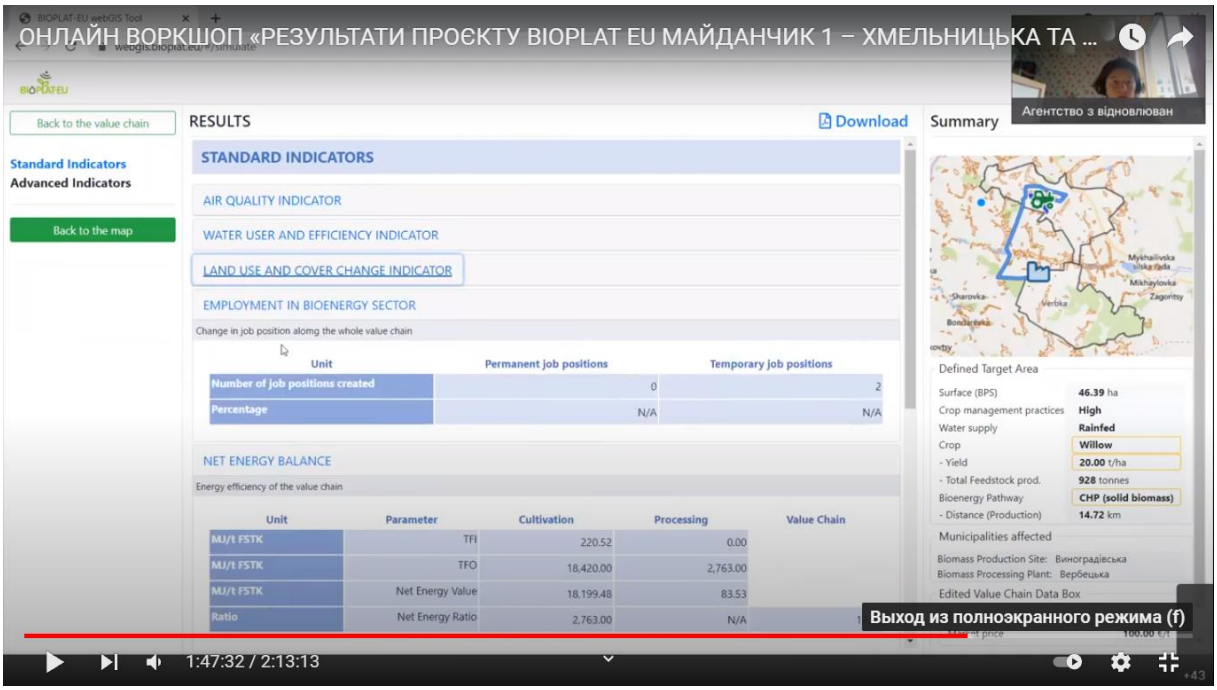
Olha Haidai, senior consultant at SEC Biomass, presented to the participants the example of how to assess the sustainability of a potential bioenergy project using webGIS tool of the BIOPLAT-EU web-platform.

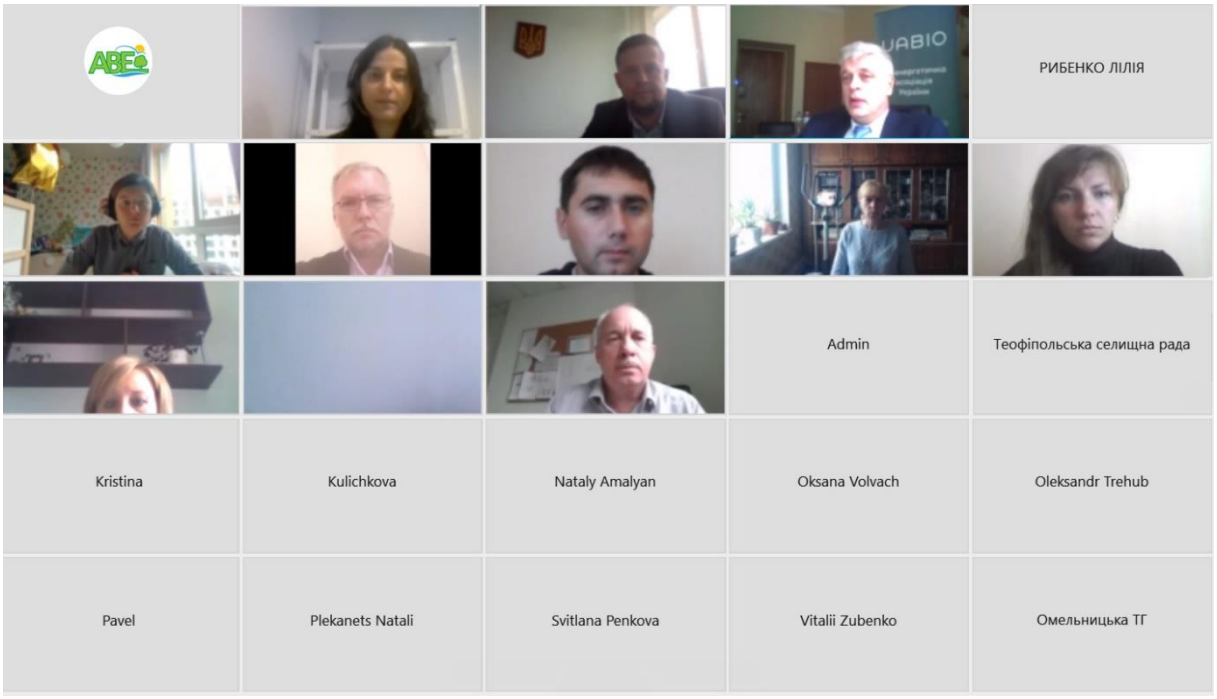

ОНЛАЙН ВОРКШОП «РЕЗУЛЬТАТИ ПРОЄКТУ BIOPLAT EU МАЙДАНЧИК 1 – ХМЕЛЬНИЦЬКА ТА ...
Олександра Трибой
Інструмент STEN – вибір культури та біоенергетичного н
Вибір біоенергетичного напрямку
Вибір культури
Layers
Biomass Processing Plants
Bioenergy Pathway
Underutilized Lands
Contaminated Lands
Administrative limits
Crops Suitability
Crop management practices
Crop
Water supply
1G Ethanol
CHP (solid biomass)
CHP (Biogas)
Straight Vegetable Oil
Biodiesel
CHP (Gasification)
2G Ethanol
Biomethane
HVO
1G Етанол
ТЕЦ (тверда біомаса)
ТЕЦ (біогаз)
Рослинна олія
Біодизель
ТЕЦ (газифікація)
2G Етанол (з целюлози)
Біометан
Гідрована рослинна олія
Crop/ Культура
Ріжій
Евкаліпт
Арундо тростинний
Кукурудза
Міскантус
Тополя
Ріпак
Сорго
Соя
Цукровий буряк
Соняшник
Просо прутовидне
Пшениця
Солома
Верба
This project has received funding from the European Union's Horizon 2020
1:18:01 / 2:13:13


ОНЛАЙН ВОРКШОП «РЕЗУЛЬТАТИ ПРОЄКТУ BIOPLAT EU МАЙДАНЧИК 1 – ХМЕЛЬНИЦЬКА ТА ...
Олександра Трибой
Платформа BIOPLAT-EU
BIOPLAT-EU webGIS Tool
RESULTS
Download
Summary
STANDARD INDICATORS
AIR QUALITY INDICATOR
WATER USER AND EFFICIENCY INDICATOR
LAND USE AND COVER CHANGE INDICATOR
EMPLOYMENT IN BIOENERGY SECTOR
NET ENERGY BALANCE
GROSS VALUE ADDED
INFRASTRUCTURES
CAPACITY
ADVANCED INDICATORS
INCOME
ENERGY ACCESS
This project has received funding from the European Union's Horizon 2020
1:22:13 / 2:13:13


ОНЛАЙН ВОРКШОП «РЕЗУЛЬТАТИ ПРОЄКТУ BIOPLAT EU МАЙДАНЧИК 1 – ХМЕЛЬНИЦЬКА ТА ...
Олександра Трибой
STANDARD USER
1 User inputs:
SELECT TYPE OF USER (NORMAL OR ADVANCED)
SELECT THE AREA (BPS)
SELECT THE CROP
SELECT IMPUT FOR THE CROP
SELECT TYPE OF BBP
LAYERS
Information Sources:
DATA BASE
2 Value chian Data :
VALUE CHAIN DATA BOX
NO EDITS ALLOWED
3 CORE Indicator calculations
RESULT
ADVANCED USER
1 User inputs:
SELECT TYPE OF USER (NORMAL OR ADVANCED)
SELECT THE AREA (BPS)
SELECT THE CROP
SELECT IMPUT FOR THE CROP
SELECT TYPE OF BBP
LAYERS
Information Sources:
DATA BASE
2 Value chian Data :
VALUE CHAIN DATA BOX
EDITS ALLOWED
3 CORE Indicator calculations
4 ADVANCED Indicator calculations
RESULT
This project has received funding from the European Union's Horizon 2020
1:14:50 / 2:13:13


ОНЛАЙН ВОРКШОП «РЕЗУЛЬТАТИ ПРОЄКТУ BIOPLAT EU МАЙДАНЧИК 1 – ХМЕЛЬНИЦЬКА ТА ...
Агентство з відновлюван
Quick Help
Search for a place
Layers
Biomass Processing Plants
Bioenergy Pathway
CHP (solid biomass)
Underutilized Lands
Contaminated Lands
Administrative limits
Crops Suitability
Автовоспроизведение включено
1:37:38 / 2:13:13





10.5 Conclusions

In the final part of the workshop, the speakers provided answers to the participants' questions about the profitability of projects for growing energy crops in Ukraine and the use of biomass for heat energy production. It was mentioned to the participants that STEN manual would be translated to Ukrainian to make work with the BIOPLAT-EU webGIS tool more convenient to Ukrainian users.

11 Workshop in Chernyhiv and Kyiv, Ukraine

11.1 Introduction

On September 24, 2021, an online workshop "Results of the BIOPLAT-EU project: Case Study 2 - Chernihiv and Kyiv regions" took place. 38 stakeholders registered for the event and more than 200 participants were able to join the participation and online broadcast via Facebook. The main part of the participants are representatives of local authorities (OTG, city, village and settlement councils) of Chernihiv and Kyiv regions, as well as private landowners, small and medium business, scientists and consultants who work or intend to work in the region.

The workshop presented the results of the BIOPLAT-EU project to local stakeholders and presented the WebGIS tool for assessing the sustainability of bioenergy projects on unused lands (low-productivity, degraded, contaminated). The table below includes the list of participants.

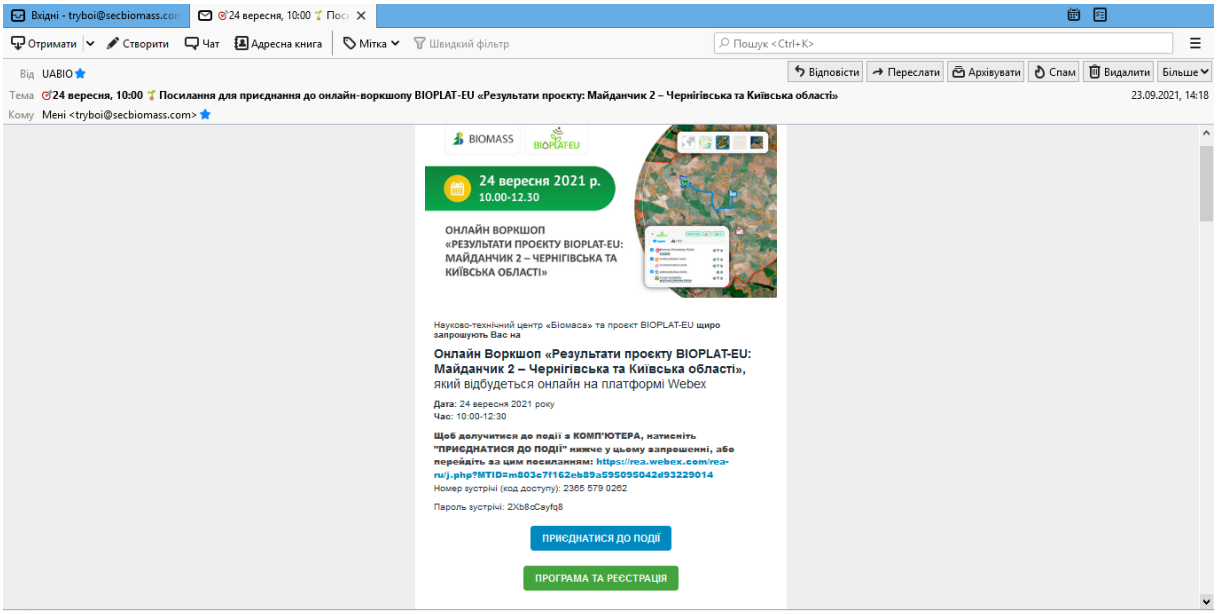
Member name	Organisation	Stakeholder category
Scherbaty Alexander	Department of Agro-Industrial Development of Chernihiv Regional State Administration	Local executive body (regional state administration, OTG, municipality and other
Gayovy Sergey	Department of Energy Efficiency, Transport, Communications and Housing and Communal Services of Chernihiv Regional State Administration	Local executive body (regional state administration, OTG, municipality and other
Tryboi Oleksandra	SEC Biomass	Consultant
Geletukha Georgii	UABIO	Scientist
Sakal Oksana	DU IEPSR NASU	Private landowner, Scientist
Sokolova Olga	Kyiv Region State Administration	Local executive body (regional state administration, OTG, municipality and other
Komelkova Olena	VSP "Rivne Technical Vocational College NUVGP"	Scientist, education
Pavlenko Larisa	Ivankiv village council	Local executive body (regional state administration, OTG, municipality and other
Zinchenko Sergey	ESCO ENERGO Project LLC	Small and medium business

Khakhula Mykhailo	BIS VC Energy Efficiency Department	Local executive body (regional state administration, OTG, municipality and other
Skiba Anton	Executive Committee of the Tetiiv City Council	Local executive body (RSA, OTG, municipality and other, Energy Manager
Kulichkova Anna	NAS	Scientist
Shpilova Julia	State Institution "Institute of Economics of Nature Management and Sustainable Development of the National Academy of Sciences of Ukraine"	Scientist
Danshina Irina	Executive Committee of Obukhiv City Council of Kyiv Region	Local executive body (regional state administration, OTG, municipality and other
Lelyakov Gennady	Vognyk Energy Production Cooperative	Small and medium business
Denisenko Konstantin	Individual entrepreneur Denisenko Konstantin Ivanovich	Small and medium business
Afinogenova Inna	Desnianska village council	Local executive body (regional state administration, OTG, municipality and other
Maksymenko Iryna	Kiselivka village council of Chernihiv district of Chernihiv region	Local executive body (regional state administration, OTG, municipality and other
Kirichenko Svetlana	Novobasanska village council	Local executive body (regional state administration, OTG, municipality and other
Teteruk Inna	Kiptivka village council	Local executive body (regional state administration, OTG, municipality and other
Sheremet Mikhail	KNUTD Energy Efficiency Management Center	Scientist
Kozlenko Anatoliy	KNUTD Energy Efficiency Management Center	Scientist

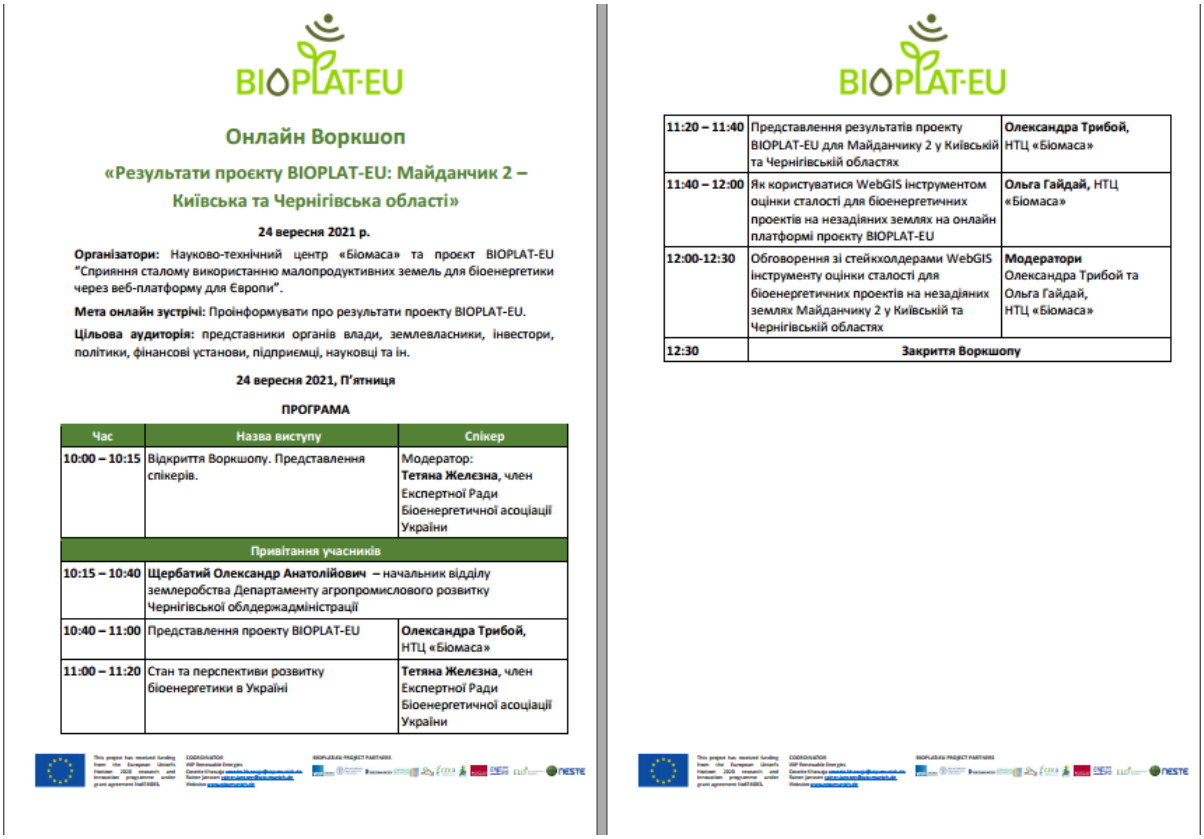
Kornienko Valentina	Sukhopolovyanska village council	Local executive body (regional state administration, OTG, municipality and other
Nosenko Maria	district state administration	Local executive body (regional state administration, OTG, municipality and other
Tarasyuk Valentina	Executive Committee of Starokostiantyniv City Council of Land Resources Management	Local executive body (regional state administration, OTG, municipality and other
Korzh Vitaly	Kulykivka village territorial community	Local executive body (regional state administration, OTG, municipality and other
Kanavets Olena	Pryluky City Council	Local executive body (regional state administration, OTG, municipality and other
Shevchenko Oksana	AFRI Ukraine	Small and medium business
Kulik Alexander	FOP KULIK	Private landowner
Shchur Alina	Executive Committee of Novodonetsk Village Council	Local executive body (regional state administration, OTG, municipality and other
Chaplygina Marina	Executive Committee of Novodonetsk Village Council	Local executive body (regional state administration, OTG, municipality and other
Kuzmenko Vladimir	NSC "IMESG"	Scientist
Yeremenko Alexander	NULES	Scientist
Vostryakova Victoria	NGO Agency for Sustainable Development SYNERGY	Scientist
Kubrak Yuri	individual	Private landowner
Oliynyk Tatiana	Koryukivska RDA	Local authority
Sabishchenko Alexander	University "National Academy of Management"	Scientist, Consultant
Sokolova Olga	Kyiv Region State Administration	Local executive body (regional state administration, OTG, municipality and other

Komelkova Olena	VSP "Rivne Technical Vocational College NUVGP"	Scientist, education
Pavlenko Larisa	Ivankiv village council	Local executive body (regional state administration, OTG, municipality and other

11.2 Invitation



11.3 Agenda



Онлайн Воркшоп

«Результати проєкту BIOPLAT-EU: Майданчик 2 – Київська та Чернігівська області»

24 вересня 2021 р.

Організатори: Науково-технічний центр «Біомаса» та проєкт BIOPLAT-EU "Сприяння сталому використанню малопродуктивних земель для біоенергетики через веб-платформу для Європи".

Мета онлайн зустрічі: Проінформувати про результати проекту BIOPLAT-EU.

Цільова аудиторія: представники органів влади, землевласники, інвестори, політики, фінансові установи, підприємці, науковці та ін.

24 вересня 2021, П'ятниця

ПРОГРАМА

Час	Назва виступу	Спікер
10:00 – 10:15	Відкриття Воркшопу. Представлення спікерів.	Модератор: **Тетяна Желєзна,** член Експертної Ради Біоенергетичної асоціації України
Привітання учасників		
10:15 – 10:40	**Щербатий Олександр Анатолійович** – начальник відділу землеробства Департаменту агропромислового розвитку Чернігівської облдержадміністрації	
10:40 – 11:00	Представлення проекту BIOPLAT-EU	**Олександра Трибой,** НТЦ «Біомаса»
11:00 – 11:20	Стан та перспективи розвитку біоенергетики в Україні	**Тетяна Желєзна,** член Експертної Ради Біоенергетичної асоціації України
11:20 – 11:40	Представлення результатів проекту BIOPLAT-EU для Майданчику 2 у Київській та Чернігівській областях	**Олександра Трибой,** НТЦ «Біомаса»
11:40 – 12:00	Як користуватися WebGIS інструментом оцінки сталості для біоенергетичних проектів на незадіяних землях на онлайн платформі проекту BIOPLAT-EU	**Ольга Гайдай,** НТЦ «Біомаса»
12:00-12:30	Обговорення зі стейкхолдерами WebGIS інструменту оцінки сталості для біоенергетичних проектів на незадіяних землях Майданчику 2 у Київській та Чернігівській областях	**Модератори** Олександра Трибой та Ольга Гайдай, НТЦ «Біомаса»
12:30	**Закриття Воркшопу**	

11.4 Summary of presentations and discussions

Tetiana Zheliezna, Head of Division at SECB and a member of the Expert Council of the Bioenergy Association of Ukraine (UABIO), mentioned that bioenergy is a key element in achieving the climate goals of the European Union and the goals of sustainable development. The question is how to ensure sustainable biomass production and the solution to this issue can be the use of marginal, unproductive and contaminated land, as they do not compete with the production of food and feed but can be used to produce biomass for energy needs.

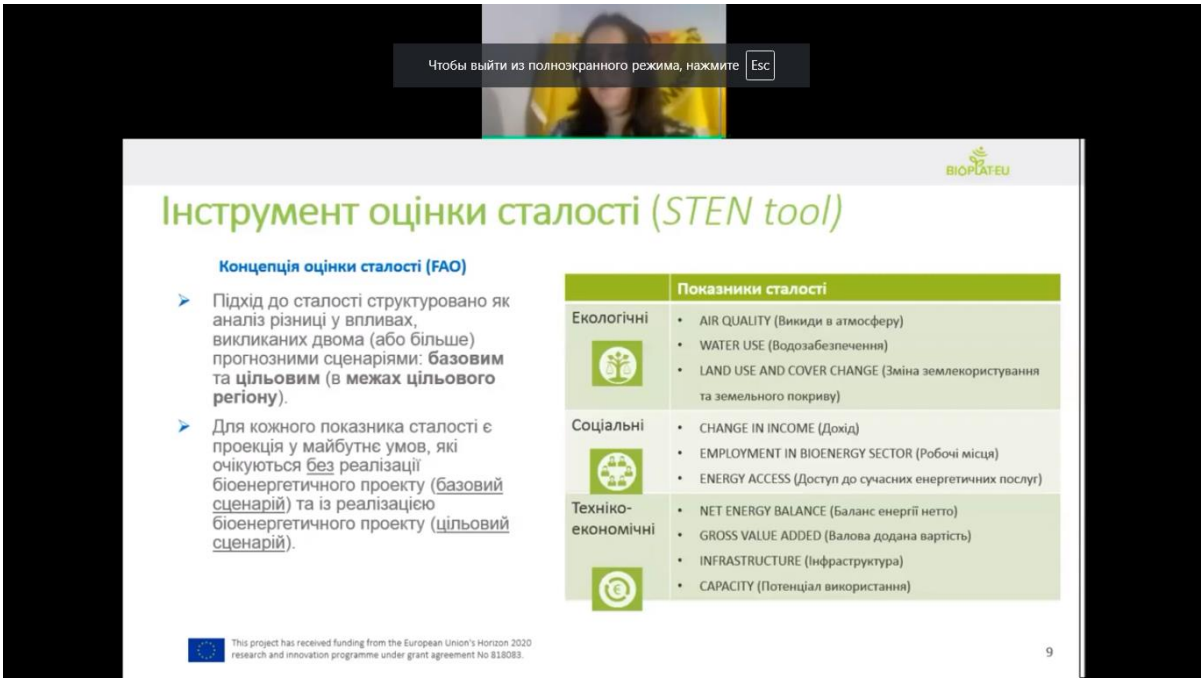
On behalf of the Chernihiv Region Administration, Oleksandr Shcherbatyi, Head of the Department of Agriculture of the Department of Agro-Industrial Development, greeted the participants of the workshop and emphasised that the use of low-productive and degraded lands will increase the well-being of both the population and communities.

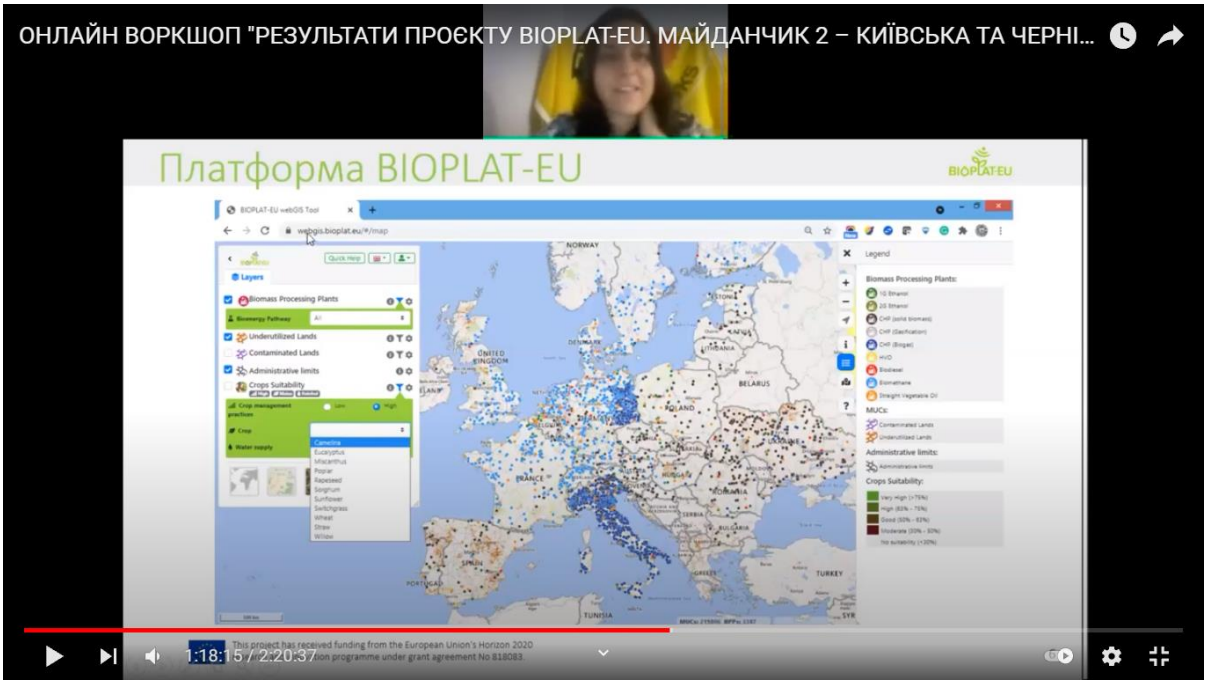
At the beginning, the final video of BIOPLAT-EU project was presented to participants.

In the main part of the workshop, Ms Zheliezna in her presentation on the state and prospects of the bioenergy sector in Ukraine said that UABIO has developed a Roadmap for the development of bioenergy in Ukraine until 2050, which provides which a significant increase in the use of energy crops to obtain solid biofuel and biogas.

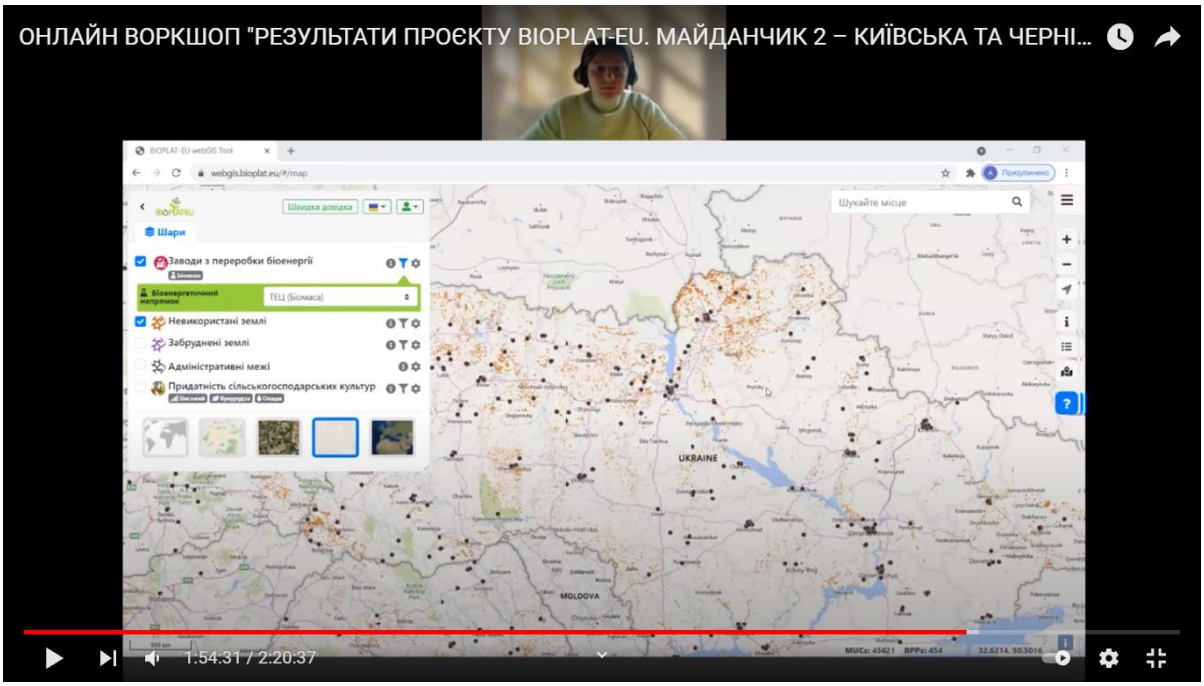
Oleksandra Tryboi, a senior consultant at SECB, spoke about the overall results of the BIOPLAT-EU project, as well as the results for Case Study 2 - Chernihiv and Kyiv oblasts. In particular, Oleksandra Tryboi noted that the project identified underutilized lands that could potentially be involved in growing energy crops. The project also prepared the feasibility study for a

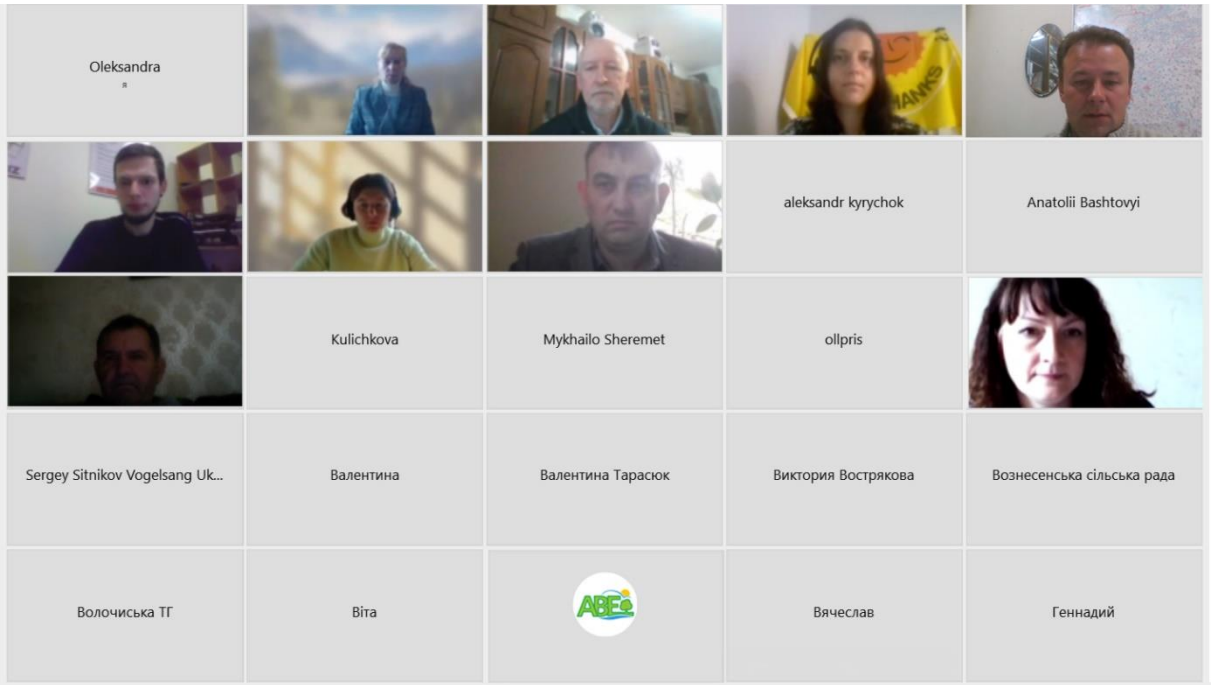
potential project of a 2-G bioethanol plant from lignocellulosic raw materials, which also include CHP on willow biomass grown on unused lands of Chernihiv region. Ms Tryboi also talked about the development of the webGIS platform with the STEN tool to assess the sustainability of bioenergy projects on underutilized lands. Ms Tryboi informed about the functionalities of the tool, including types of crops and bioenergy pathways and also the sustainability indicators that can be assessed by standard and advanced users.





Olga Haidai, Senior Consultant of SECB, explained to the participants how to work with the WebGIS tool and presented an example of assessing the sustainability of a bioenergy project online via BIOPLAT-EU platform.





11.5 Conclusions

In the final part of the workshop, the speakers provided answers to the participants' questions about the tool for assessing the sustainability of energy crop projects in Ukraine, as well as the prospects for the production of liquid biofuels in Ukraine. In the conclusion, it was mentioned that presentations of the speakers and video of this meeting will be sent to participants, and they will be published on the SECB website. It was also announced to the participants that the STEN manual would be translated to Ukrainian to make work with the BIOPLAT-EU webGIS tool more convenient to Ukrainian.