



**BRANCHES**

BOOSTING RURAL BIOECONOMY NETWORKS

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Boosting Rural bioeconomy Networks  
following multi-actors approaCHES

**Deliverable D3.3. Workshops of bioenergy technologies – summary report**

**Kirsikka Kiviranta, VTT**



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<b>Title</b>	DELIVERABLE D3.3. WORKSHOPS OF BIOENERGY TECHNOLOGIES – SUMMARY REPORT
<b>Creator</b>	Kirsikka Kiviranta
<b>Description</b>	The deliverable summarizes the BRANCHES WP3 workshops in WP3 partner countries.
<b>Contributors</b>	All workshop organizers/hosts, WP3 Leader, WP5 Leader
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## 1 – Goal of Workshops

“Workshops” aim to achieving several goals at one time, and namely:

Workshop is a fundamental tool to stimulate the exchange of knowledge and the cooperation between researchers, advisors, and farmers/foresters. Workshops will be held as multi-actor actions. In WP3, a total number of six (6) workshops will be organized in Finland (2), Spain (1), Italy (1), Poland (1) and Germany (1) to connect scientists, practitioners, NTNs, technology providers, ESCOs and technology platforms. The specific topics of the workshops will be decided in the course of the project based on the main interest areas arising while collecting and sharing the Practice Abstracts. Workshops will focus on bioenergy technologies and the added-value they bring for rural development. Workshops may also be organized in conjunction with WP2 workshops, that also cover the raw material supply chains.

## 2 – Type of Workshop

Workshops can be held as online, physical or hybrid events; they can take place in combination with other events (fairs, tradeshows etc.) or be stand-alone, depending on the target groups or aim of the workshop. Depending on the aims, the focus of each workshop can be regional, National, or international; workshops can have a BRANCHES working package (WP) specific focus or overlapping topics. Workshops are recommended to be conducted in National languages to ensure the BRANCHES bottom-up approach, but they can also be held in English for international events with a wider audience.

## 3 – Number of Workshops

During the BRANCHES project WP3 shall boost the uptake of proposed solutions through continuous interaction with practitioners, including 6 workshops and 5 showcase days (with corresponding, engaging videos). The planned number of workshops and showcase days are divided into partner countries as follows:

- Finland:
  - 2 workshops
  - 1 showcase day
- Poland:
  - 1 workshop
  - 1 showcase day
- Spain:
  - 1 workshop
  - 1 showcase day
- Italy:
  - 1 workshop
  - 1 showcase day
- Germany:
  - 1 workshop
  - 1 showcase day

## 4 – Practicalities

When organizing a Workshop, the following practical guidelines were carefully considered:

- Workshops are referring to the BRANCHES project
- Banners or roll-ups are installed at physical workshop sites to advertise the BRANCHES project
- Photos or screenshots are taken at each Workshop
- Attendance lists are compiled, indicating: 1) date and place and 2) name, company, and country

## 5 – Workshop Reports

A Workshop report was compiled for each workshop, providing an overview of the participation, topics discussed during the workshop and compile a summary of the main outcomes of the workshop.

**In summary**, a total of six workshops were held in BRANCHES WP3 by June 2023. Workshops were held in Finland, Poland, Spain, Italy and Germany. **2** of the conducted workshops were physical workshops, **2** held as hybrid events and **2** held entirely online.

As BRANCHES WP3 workshops may also be organized in conjunction with WP2 workshops, **some of the workshops of WP3 have already been reported in the previous deliverables and hence are not reported again in this deliverable.** These workshops are:

Country	Name of the workshop	Date of the workshop	Type	Number of participants	Reported in
Poland	BRANCHES Workshop: Local systems of bioeconomy and renewable energies – technologies, supply chains, opportunities and bottlenecks of development	08.12.2021	Hybrid	115	D2.1.
Italy	Sustainable land management in the Abruzzo region	10.3.2022	Physical	23	D2.2.

Altogether, **243** participants joined the workshops of WP3. Participants represented a wide variety of stakeholders and practitioners, including companies, public agencies, research and development (R&D), primary producers (farmers and forest owners), engineering, and other stakeholders.

In addition to the important networking within each National network (NTNs), the project partners presented several Practical Abstracts (PAs) to the participants. In addition, workshops provided valuable insights about practitioners' interest.

A Workshop Annex (A to D) is attached to this document, compiling detailed feedback of a total of four workshop summaries with a report for each conducted workshop by BRANCHES WP3 project partners.

## A. Annex 1 – Workshop Report “First workshop Finland”

### Name of the workshop

Innovaatioita maatalojen energiantuotantoon ja sivuvirtojen hyötykäyttöön  
Innovations for farm-scale energy production and utilization of side streams

### Description of the workshop

The first Finnish workshop for BRANCHES WP3 was organized on 13.10.2022 to present and discuss farm-scale energy production solutions and side stream utilization processes in rural regions. In addition to the presentations, the drivers and barriers related to the presented energy production and side stream utilization solutions in Finnish rural regions were discussed. The workshop was organized in Finnish and the number of online participants in the event was 29. Seven (7) participants were primary producers (farmers/foresters), while the other participants covered the areas of R&D, companies/consultancy, public administration and education.

The workshop was a joint action between BRANCHES and COOPID projects. The COOPID project is also a Horizon 2020 project that aims to disseminate good bioeconomy practices by identifying successful stories in the EU, then, organizing visits for primary producers to learn and later talk about the solutions in workshops. The online workshop was planned and hosted by Finnish partner VTT together with ProAgraria, Oulu, from COOPID project.

Workshop type  online  physical  hybrid  other, please specify: \_\_\_\_\_

Workshop organization  stand-alone  
 in connection with another event  
 other (Planned and hosted with other EU Horizon2020 project COOPID)

BRANCHES working package:  WP1  WP2  WP3  WP4  
 other, please specify: \_\_\_\_\_

### Goal of the workshop

The goal of the workshop was to present selected BRANCHES WP3 Practice Abstracts from Finland as well as other examples of energy production and side streams utilization possibilities in rural regions (described later). In addition, the aim of the workshop was to collect drivers and barriers, and suggestions on how to overcome the identified barriers, for the implementation of the presented technologies.

### Place & region of workshop

Online, Teams

Region: Finland

**Dates of workshop:** Thursday 13<sup>th</sup> October 2022 (12:00-14:00 EET)

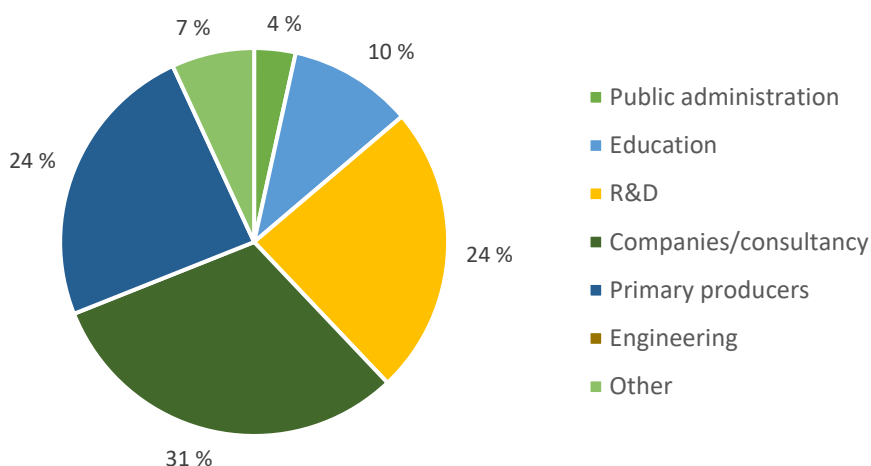
**Organizers:**

The workshop was planned and hosted by Finnish partner VTT from BRANCHES project and ProAgria Oulu from COOPID.



**Number of attendees: 29**

**Profile of 1st Finnish workshop participants**



Audience breakdown (n° of attendees)	Category	Count
	Companies/Consultancy	9
	Public Administration	1
	Primary Producers	7
	R&D	7
	Education	3
	Other	2

## Moderator's summary

During the workshop, Kirsikka Kiviranta (VTT) and Jyrki Raitila (VTT) presented Practice Abstracts from BRANCHES project. Kirsikka Kiviranta gave a presentation with the title "Examples of farm-scale energy production solutions" that introduced the BRANCHES project and covered the PAs "Hybrid solution to ensure energy self-sufficiency in a berry farm", "Manure-power milk logistics" and "Climate-smart food production". Jyrki Raitila introduced the Abstract "Biomass hybrid dryer".

In addition to the BRANCHES cases, other examples of energy production and side streams utilization possibilities in rural regions were introduced in the workshop as well. Jari Eerola (Setälä-Eerola farm) and Manu Hollmén (ProAgria Länsi-Suomi) introduced a rural Austrian pellet production facility, where pellets are produced from agricultural biomass residues and side-streams. Jari Eerola also introduced the climate-related activities that take place in his farm and from which he won a prize "From Climate Anxiety to Climate Opportunities" from the MTK Foundation. In addition, Timo Lehtiniemi (North Ostrobothnia Centre for Economic Development, Transport and the Environment) gave a presentation of Finnish investment subsidies for farms. Furthermore, Taru Koskinen (ProAgria Oulu) gave an introduction of the COOPID project.

The translated titles of the presentations were:

- Welcome words, Tuomo Heikura, ProAgria Oulu
- Looking for bioeconomy success stories – models from around the world; Taru Koskinen, ProAgria Oulu
- Pellets from agricultural side streams - benefits and opportunities, example from Austria; Jari Eerola, Setälä-Eerola farm and Manu Hollmén, ProAgria Länsi-Suomi
- From climate anxiety to climate opportunities; Jari Eerola, Setälä-Eerola farm
- Investment subsidies for farms; Timo Lehtiniemi, ELY center of North Ostrobothnia
- Examples of farm-scale energy production solutions; Kirsikka Kiviranta, VTT
- Hybrid dryer: Solar heat and low-cost electricity for drying biomass; Jyrki Raitila, VTT
- Discussions in small groups: What are the drivers and barriers for renewable energy production and side stream utilization in Finnish rural regions?
- Breakdown and summary of group work

After the presentations, drivers and barriers related to the presented solutions in the Finnish rural regions were discussed. Kirsikka Kiviranta (VTT) introduced the goals and guidelines for the workshop session. The participants were divided into three small groups, and the groups were hosted by Kirsikka Kiviranta (VTT), Tuomo Heikura (ProAgria Oulu) and Olli Nurkkala (ProAgria Oulu). The participants provided their contributions via a visual collaboration platform Miro. In addition, the discussions were maintained throughout the workshop. The guiding questions for the group work were:

1. What are the most interesting solutions for energy production and/or utilisation of side streams for agricultural farms in Finland?
2. What are the barriers and drivers for energy production solutions in Finland?
3. How can the identified barriers and challenges be solved?

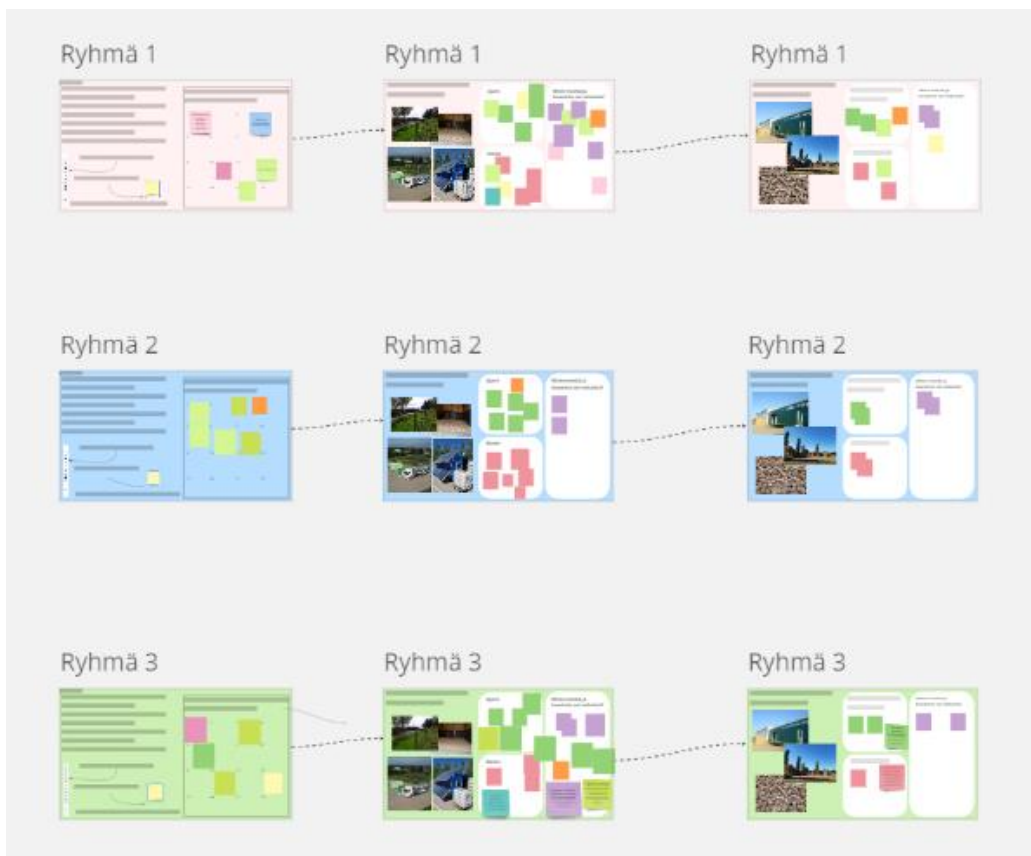
The collected drivers and barriers gave good insight and will serve as a good input for the BRANCHES deliverable "Report on drivers and barriers for implementation of bioenergy technologies in rural areas". To summarize, biogas and solar PV were seen as the most interesting technologies for energy production in rural regions. The increased energy price was seen as the main driver for new investments, but environmental benefits are also important. High investment costs and poor funding opportunities were seen as main barriers for new investments in rural regions. A suggested solution for the main barriers was investment subsidies from the government, new innovations to foster technology cost-efficiency and knowledge sharing.



Images



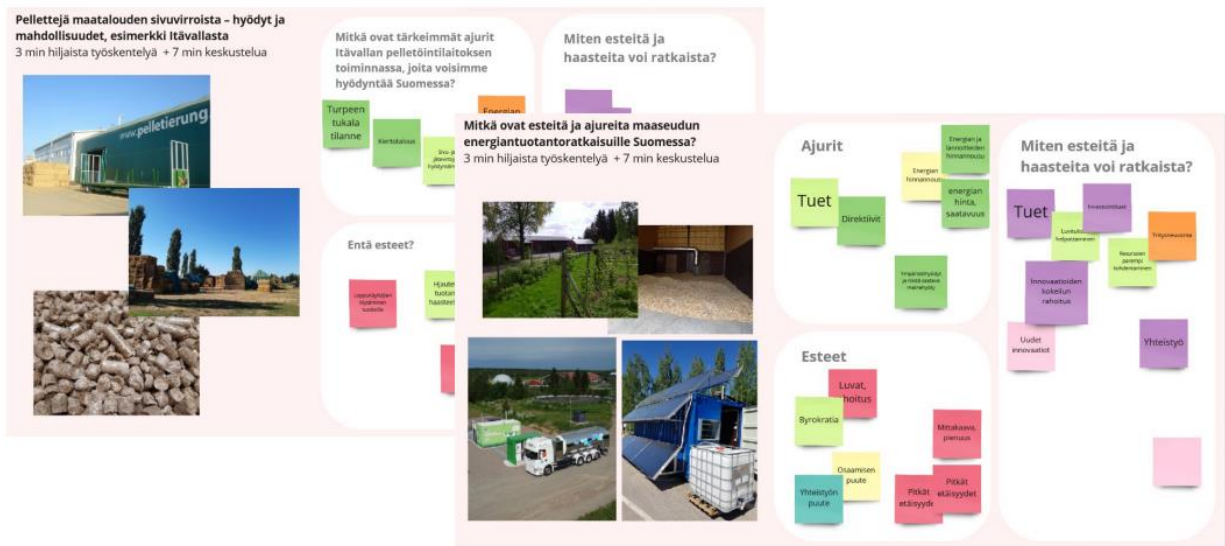
Picture: Kirsikka Kiviranta (VTT) introduced the BRANCHES project in the workshop.



Picture: The participants provided their contributions via a visual collaboration platform Miro. The Miro boards and structure of the workshop was planned by Kirsikka Kiviranta (VTT) from the BRANCHES project.



**Picture:** Research Scientist Kirsikka Kiviranta (VTT), Economic Advisor Tuomo Heikura (ProAgria Oulu) and Service Manager Olli Nurkkala (ProAgria Oulu) hosted and summarized the workshop contributions in the small groups.



**Picture:** Examples of the contributions in the small groups (in Finnish).

## B. Annex 2 – Workshop Report “Second workshop Finland”

### Name of the workshop

Potkua biokaasun tuotantoon! -työpaja  
Boost for biogas production! -workshop

### Description of the workshop

The second Finnish workshop for BRANCHES WP3 was organized on Tuesday 22.11.2022 to present and discuss latest innovations and practices of rural biogas production in Finland. In addition to the presentations, the drivers and barriers for rural biogas production in Finland as well as suggestions to solve the challenges were discussed. The workshop was organized in Finnish and as a physical workshop, but some participants were given an online access to the presentations as they had difficulties in reaching the workshop venue due to difficult weather conditions. A total number of 29 participants took part in the workshop, of which 26 participated in the workshop live and 3 remotely. Seven (7) participants were primary producers (farmers/foresters), while the other participants covered the areas of R&D, companies/consultancy, public administration and education.

The workshop was a joint effort of three projects: BRANCHES, COOPID and HABITUS. The COOPID project is also a Horizon 2020 project that aims to disseminate good bioeconomy practices by identifying successful stories in the EU, then, organizing visits for primary producers to learn and later talk about the solutions in workshops. HABITUS project is coordinated by Centria University of Applied Sciences and funded by the European Regional Development Fund. In HABITUS project, farm-scale biomethane liquefaction is investigated.

Workshop type  online  physical  hybrid  other, please specify: physical, but some participants were given online access to the presentations\_\_\_\_\_

Workshop organization  stand-alone  
 in connection with another event (please specify \_\_\_\_\_.)  
 other (Planned and hosted with EU Horizon2020 project COOPID and HABITUS project funded by the European Regional Development Fund)

BRANCHES working package:  WP1  WP2  WP3  WP4

### Goal of the workshop

The goal of the workshop was to present key learnings and highlights of biogas-related BRANCHES WP3 Practice Abstracts from Finland and from other consortium countries. In addition, COOPID project presented a biogas production example Biogal from Poland, that is also introduced in one BRANCHES Practice Abstract. In addition, keynote speeches were given during the workshop by local biogas plant supplier (Demeca Oy) and a Finnish dairy company Valio with farm-scale -related biogas plans. Furthermore, the winner of the BRANCHES Best Innovative Practice Award in Finland – a farm-scale biomethane liquefaction unit - was presented by the HABITUS project followed by a lab tour to see the actual equipment.

After the presentations, drivers and barriers for biogas production in Finland were discussed, as well as how to overcome the discussed barriers. The participants of the workshop wrote their thoughts on notes, which were collected and summarized at the end of the workshop.

**Place & region of workshop**

Centria University of Applied Sciences, Ylivieska
Region: Finland

**Date of workshop:** Tuesday 22<sup>nd</sup> November 2022 (12:00-15:30 EET)

**Organizers:**

The workshop was planned and hosted by Finnish partner VTT from BRANCHES project, ProAgria Oulu from COOPID project and Centria University of Applied Sciences from HABITUS project. The farm-scale biomethane liquefaction unit developed in HABITUS project has won the BRANCHES Best Innovative Practice Award in Finland.

BRANCHES BOOSTING RURAL BIOECONOMY NETWORKS

VTT

Luke NATURAL RESOURCES INSTITUTE FINLAND

Tämä hanke on saanut rahoitusta Euroopan Unionin tutkimuksen ja innovoinnin puiteohjelmasta Horisontti 2020 avustussopimuksen nro 101000375 – BRANCHES mukaisesti.

ProAgria Oulu

MAA- JA KOTITALOUSNAISET OULU

Co-funded by the Horizon 2020 programme of the European Union

Grant Agreement No. 101000519

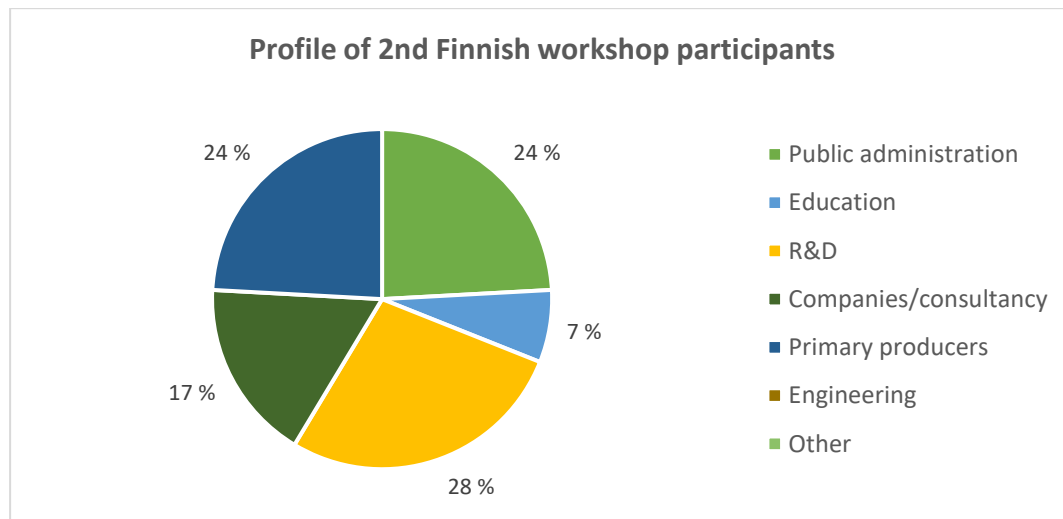
HABITUS Hajautettu biometaanin nesteytys Suomessa

Euroopan unioni Euroopan aluekehitysrahasto

Vipuvoimaa EU:lta 2014–2020

KESKI-PORIJÄNKÄÄN LIITTO

**Number of attendees: 26 live + 3 remote**



Audience breakdown (n° of attendees)	Category	Count
	Companies/Consultancy	5
	Public Administration	7
	Primary Producers	7
	R&D	8
	Education	2
	Other	

## Moderator's summary

During the workshop, Kirsikka Kiviranta (VTT) gave an introduction of BRANCHES project and presented key learnings and highlights of biogas-related BRANCHES WP3 Practice Abstracts (PA) from Finland and other consortium countries including “Farm-scale energy and nutrients circulation through an on-farm micro biogas plant (Poland)” “Added value from an agricultural biogas plant (Poland)”, “Manure-powered milk logistics (Finland)” and “Agricultural cooperative biogas plant (Germany)”. In addition, Saija Rasi (Luke) presented the BRANCHES example “Climate-smart food production (Finland)” and showed a video created in BRANCHES project related to the case. The COOPID project presented a biogas production example Biogal from Poland, that is also introduced in BRANCHES Practice Abstract “Biogal – The green biogas plant in Boleszyn (Poland)”.

In addition to the cases that have been covered in BRANCHES PAs, during the workshop, speeches were given by local biogas plant supplier (Demeca Oy) and a Finnish dairy company Valio with farm-scale -related biogas plans. The presentation of Demeca introduced the steps that a farmer has to take to invest into a biogas plant. Valio gave an introduction of their concept with Finnish energy produced ST1, in which manure from dairy and cattle farms will be used in both compressed and liquefied biomethane production for transportation use, and how farmers could join this initiative. Finally, the winner of the BRANCHES Best Innovative Practice Award in Finland – a farm-scale biomethane liquefaction unit - was presented by the HABITUS project followed by a lab tour to see the actual equipment.

After the presentations, drivers and barriers for biogas production in Finland were discussed, as well as how to overcome the discussed barriers. The participants of the workshop wrote their thoughts on notes, which were collected and summarized at the end of the workshop.

The translated titles of the presentations were:

- Welcome: Heidi Kanala-Salminen, Centria University of Applied Sciences
- Seeking success stories in bioeconomy - examples from around the world: Taru Koskinen, ProAgria Oulu
- Boosting bioeconomy through research - good practices from Europe: Kirsikka Kiviranta, VTT
- Biogas plant success story from Poland: Biogal biogas production plant: Tuomo Heikura, ProAgria Oulu
- Future opportunities of manure: Robert Harmoinen, Valio
- Perspectives from a biogas plant supplier Demeca: Sami Vinkki, Demeca
- Climate-smart food production at Qvidja Farm: Saija Rasi, Luke
- Farm-scale liquefaction of biomethane and lab tour: Simo Mäenpää and Matti Ojala, Centria University of Applied Sciences
- Workshop: Drivers and barriers from biogas production in Finland
- Workshop wrap-up and summary

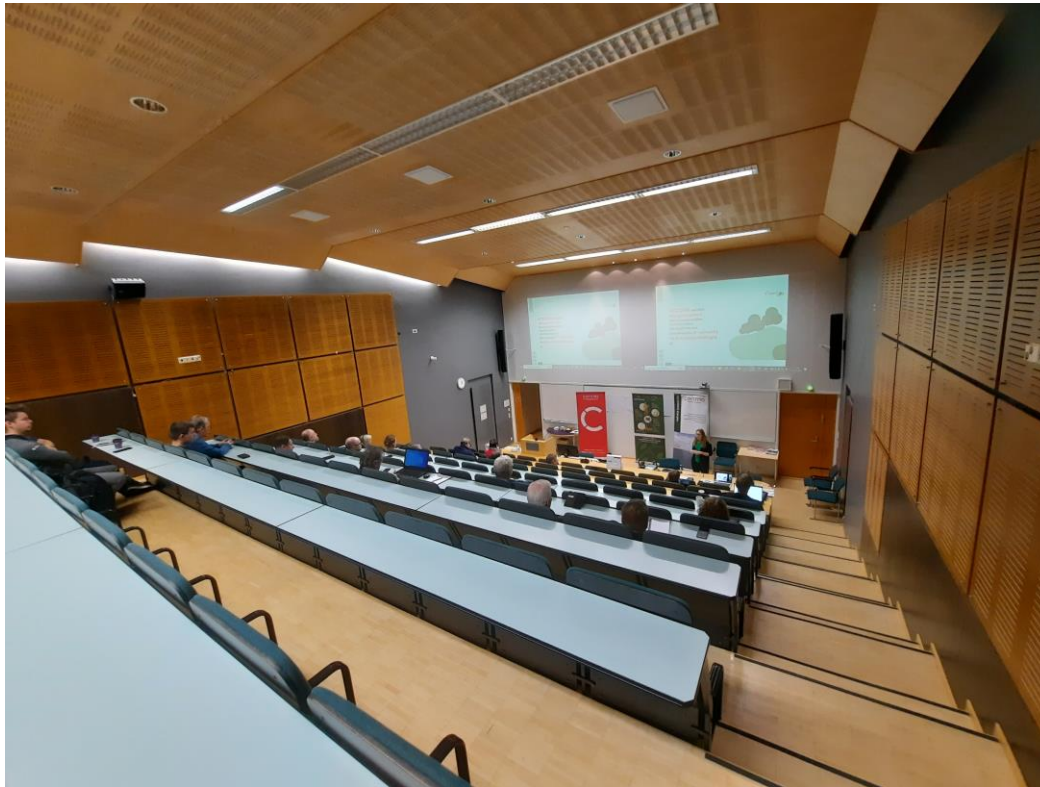
After the presentations, drivers and barriers for biogas production in Finland were discussed, as well as how to overcome the discussed barriers. Kirsikka Kiviranta (VTT) introduced the goals and guidelines for the workshop session. The participants of the workshop wrote their thoughts on notes, which were collected and summarized at the end of the workshop. Kirsikka Kiviranta (VTT) from BRANCHES project and Tuomo Heikura (ProAgria Oulu) from COOPID project summarized the outcomes during the workshop. The guiding questions for the workshop were:

- What are the barriers and drivers for biogas production in Finland?
- How can the identified barriers and challenges be solved?

The collected drivers and barriers gave good insight and will serve as a good input for the BRANCHES deliverable “Report on drivers and barriers for implementation of bioenergy technologies in rural areas”. To summarize, important drivers for biogas production in Finland are the aim to increase energy self-sufficiency at farms, availability of feedstock and increased energy prices. High investment costs, difficulties in accessing finance and inconsistent regulations for instance in permitting processes were seen as important barriers. Examples on how to solve the challenges include financial incentives such as feed-in tariffs for biogas and investment grants for biogas production, research and development to enable cost-efficient farm-scale biogas production and biogas cooperatives and partnerships to share financial burden and create markets for biogas.



## Images



**Picture:** The workshop was organized in Ylivieska, Finland with 26 live attendees.



**Picture:** Several BRANCHES Practice Abstracts were presented during the event. In the picture, Saija Rasi from Luke is introducing the highlights of the “Climate-smart food production” abstract from Finland.



**Picture:** The workshop included a lab visit to see the farm-scale liquefaction of biomethane unit that won the BRANCHES Best Innovative Practice Award in Finland. Matti Ojala from Centria University of Applied Sciences gave an introduction to the equipment.



**Picture:** Drivers and barriers, and solutions to overcome the barriers for biogas production in the Finnish rural regions were collected during the workshop. Research Scientist Kirsikka Kiviranta (VTT) and Economic Advisor Tuomo Heikura (ProAgria Oulu) summarized the outcomes during the workshop.



**Potkua biokaasun tuotantoon**

Ylivieska, 22.11.2022 (Centria AMK, Vierimaantie 7, 84100 Ylivieska)



Co-funded by the Horizon 2020 programme of the European Union

Grant Agreement No. 101000519



**Osallistujat:**

\*Nämä tiedot kerätään hankerahoituksen raportointiteknisistä syistä ja tiedoista raportoidaan ainoastaan lukumäärät.

-	Sukunimi:	Etinimi:	Organisaatio:	Oletko pää- tai sivutoiminen alkutuottaja? (jos kyllä, raksi ruutuun)*	Omistatko metsää? (jos kyllä, raksi ruutuun)*	Oletko alle 40-vuotias? (jos kyllä, raksi ruutuun)*	Allekirjoitus
1	Kanala-Sammun	Heidi	Centria TKI				Heidi K-S
2	Ojala	Matti		x	x		Matti Ojala
3	Niittyvirta	Emilia				x	Emilia Niittyvirta
4	Koivunen	Taru	ProAgria Oulu		x	x	Taru Koivunen
5	Kiviranta	Kirsi	VTT			x	Kirsi Kiviranta
6	Rasi	Saija	Lutke				Saija Rasi
7	Järvelin	Sami	Thermopolis Oy				Sami Järvelin
8	Korjonen	Seija	Häusepalvelu Applapeltto				Seija Korjonen
9	Koivtonen	LuPO		x	x		Jepo Koivtonen
10	Lehtonen	Kalle		x	x		Kalle Lehtonen
11	Pärkkä	Timo	Kaustinen seutukunta				Timo Pärkkä
12	Lehtinen	Jani	Vielälyyden	x	x		Jani Lehtinen
13	Salmela	Heidi	Centria TKI			x	Heidi Salmela

-	Sukunimi:	Etinimi:	Organisaatio:	Oletko pää- tai sivutoiminen alkutuottaja? (jos kyllä, raksi ruutuun)*	Omistatko metsää? (jos kyllä, raksi ruutuun)*	Oletko alle 40-vuotias? (jos kyllä, raksi ruutuun)*	Allekirjoitus
14	Virtala	Tuomo	Centria AMK				Tuomo Virtala
15	Eskola	Teemu	Triinimi				Teemu Eskola
16	Mönnönen	Simo	Centria AMK				Simo Mönnönen
17	Niskanen	Kalle	NIHAK				Kalle Niskanen
18	Savolainen	Juho	Nivalan Teollisuus				Juho Savolainen
19	Karjalainen	Pentti	PKA Rakennuspalvelu				Pentti Karjalainen
20	Myllymäki	Toni		x	x		Toni Myllymäki
21	Kokkonen	Janne	ProAgria Oulu				Janne Kokkonen
22	Huuskola	Jussi	ProAgria Oulu			x	Jussi Huuskola
23	Impio	Jan-Erik	SMA MINERAL			x	Jan-Erik Impio
24	Impio	Mika	PS Kiviteollisuus			x	Mika Impio
25	Vinkki	Sami	DEMERA			x	Sami Vinkki
26	Heikkinen	Tuomo	ProAgria Oulu			x	Tuomo Heikkinen
27							
28							
29							
30							
31							
32							
33							
34							

**Picture:** List of live participants (confidential). List collected by the COOPID project. The list does not include online participants.



### C. Annex 3 – Workshop Report “Workshop Spain”

#### Name of the workshop

PRÁCTICAS INNOVADORAS PARA BIOENERGÍA y BIOCARBONO CON BIOMASA AGRÍCOLA  
 INNOVATIVE PRACTICES FOR BIOENERGY AND BIOCOAL OBTAINING WITH AGRICULTURAL BIOMASS

#### Description of the workshop

A joint workshop was organized for WP2 and WP3 in the framework of the FIMA fair (International Fair of Agricultural Machinery). A large number of international exhibitors attend the fair to showcase their latest products and developments in the field of agricultural equipment. The fair offers helpful tips for farmers to increase yields and useful information on public interest to maximize profits. The fair takes place biennially.

Two roll-ups and brochures were prepared and distributed among the attendants.

A survey was prepared and distributed to retrieve feedback from the participants. Attendance list was also prepared although the attendants who joined online are not included.

Additionally, the Portuguese collaborator were invited and joined the workshop. AVIPE was able to travel to Zaragoza and CBE joined remotely.

Workshop type  online  physical  hybrid  other, please specify: \_\_\_\_\_

Workshop organization  stand-alone  
 in connection with another event (FIMA fair)  
 other

BRANCHES working package:  WP1  WP2  WP3  WP4  
 other, please specify: \_\_\_\_\_

#### Goal of the workshop

The main aim of the workshop was to present and transfer innovative practices to sectorial actors that have been identified and reported in the PAs as well as to promote the national thematic network developed.

Taking this into account the agenda prepared defined 3 blocks:

Firstly, an introduction to present the BRANCHES project and the INTERCAMBIOM network to the participants. Although some of the participants already joined the network, others did not, so main objectives and short description of the network operation were presented as well as the main benefits of joining the network.

The second block focused on the transfer of innovative practices reported in WP2 and WP3 to the sectorial actors.

The third block intended to discuss about the keys to replicate the innovative practices presented and possible barriers, but also to answer questions and of course retrieve feedback from the participants concerning for instance the replicability potential of the innovations.

See agenda at the end of the template. Pictures are also included.

**Place & region of workshop**

Zaragoza, SPAIN

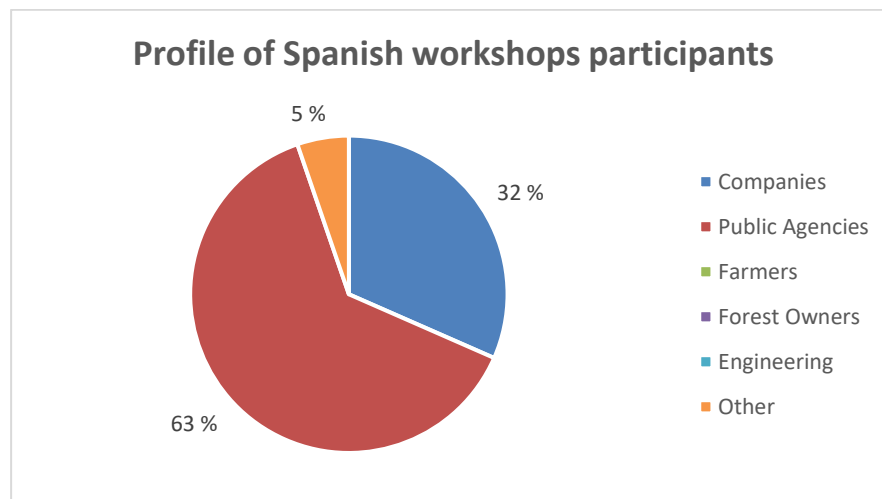
Zaragoza trade fair ground

**Dates of workshop:** 27/04/2022

**Organizers:**



**Number of attendees: 19 live + 3 online attendees (not reported in the categories below)**



Audience breakdown (n° of attendees)	Companies	6
	Public Agencies	12
	Farmers	
	Forest owners	
	Engineering	
	Other	1

Agricultural associations joined the event (attended online and live) as well as a couple farmers (did not register since they entered late and only joined the innovative practices presentations, they were interested in). The sectorial associations are reported under public agencies as well as research institutions although there are public and private. In summary: 3 public administration representatives, 8 sectorial agents, 5 research participants and one as other category (media) joined the workshop.

See attendance list at the end of the document.

### Moderator's summary

On the one side participants reported their interests by means of a template distributed for this aim (attached at the end of the document) but others preferred to directly comment it during the round table or later during the catering to the organizers.

In this regard, it can be drawn that there is an interest to know more about the network, it was rated as 2-3/5 but the knowledge about the innovative practices was rated in all cases as 5/5. Additionally, a reduced number of participants, which is aligned with the type of stakeholders who attended the event mentioned they could be interested to implement such innovative practice. There were at least 4 farmers attending the event that did not report their information in the attendance list but were interested to listen about one of the practices presented so they just joined the event during that presentation.

On the other hand, feedback was collected during the round table about the replicability potential of the different practices and the keys to successfully replicate them in each case.

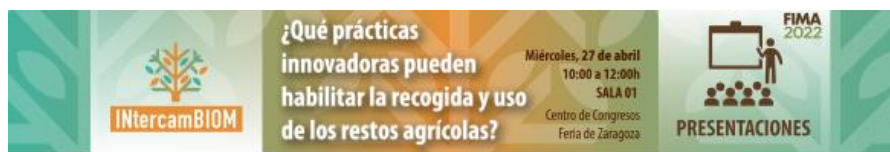
- In this sense, concerning the vineyard shoot value chain the keys highlighted concerned the necessity of private and public sector to work together in order to promote and implement the initiative and also to align all actors involved in the value chain. Based on their experience it is time consuming and sometimes difficult to mobilize agents. The first starting point for local authorities is to realize and give the right answer to the question: what can I do in my territory? (since each territory has different characteristics). When designing the project, it is essential to set realistic objectives in the short and midterm. The importance to involve professionals with the needed expertise is a key to correctly dimension the value chain and assess its suitability and profitability. It was also emphasized that the economic viability of this value chain needs that the farmers participate in the economics, paying a small fee per hectare, in order that a third company performs the service. It is crucial they understand they are not paying, but actually saving money, as the fee is much lower in cost than the costs incurred to mulch or to dispose the pruning in open fires.
- Regarding the vineyard shoot collecting machinery the key for its implementation is related to the development of a machinery that will on the one hand does not imply any substantial difference regarding the operational mode compared to the usual machinery and on the other hand the machinery allows to obtain a clean material that will significantly improve the quality of the biofuel and therefore avoid operational problems during the boiler performance. Additional benefits that the farmer should take into account imply that in some cases it also allows to avoid cleaning operation to leave the field in good conditions to avoid fungi spreading. Environmental impact of the pruning collection was also raised as a topic of interest, in this case the impact was highlighted as low or minimum. An additional benefit of this machinery is precisely that 75 % of the vineyard pre-pruning material is collected but 25 % will not be collected with could be a good way to comply with the environmental benefits of leaving a certain amount in the field. Although as previously mentioned this amount should be carefully determined to avoid fungi occurrence. The innovation is to be mounted on an hydraulic arm at the front of a grapevine harvester. The device is not compatible to be mounted in forwarders. Therefore, the ideal adopter is an agricultural service company owning a grapevine harvester, and already involved in other services like application of phytosanitary products or performing pruning. It is important to emphasize that the driving velocity is similar to a usual pruning machinery, and that the extra costs are associated to the discharge times. The ROI depends upon the margin given to the biomass (€/t) and the total hectares harvested. This figure is to be finely identified once implemented for new value chains.
- Concerning the technology developed to obtain torrefied biocoal from agricultural residues the main aspect highlighted was linked to the scaling of the technology to industrial level and its economic feasibility which is dependent on the fossil fuel price, highly volatile in the last period, and the price associated to the CO<sub>2</sub> emissions. Nevertheless, considering the last period's prices of these two parameters, scenarios are very promising for the coming years. The technology of torrefaction can be suitable in terms of economics for industries when prices of the carbon credits go above 40 €/tCO<sub>2</sub>. The scale for a profitable adoption of the technology is for a production of 60 to 100 kt per year. Intensive industries can get a ROI of circa 1 to 2 years. The implementation could also be adopted by a company supplying the torrefied biomass to several medium scale consumers in an area, instead to only a large intensive energy industry.

- Regarding the technology to clean the olive stone in order to improve its quality as biofuel, again the most relevant aspect highlighted was the economic feasibility. In this case the equipment represents a cost-effective investment for those olive mills which produce a volume of olive higher than 15,000 tonnes, or for groups of smaller olive mills in an area, which already compile and mix their olive cake to facilitate its management. For such volume, the investment required is not very demanding and affordable for these types of industries. This technology enables olive mills to start a new activity, by taking the valuable fraction of the olive stone out of the olive cake, before transferring the olive cake to the usual intermediary or olive pomace industry. Discussion was also hold regarding the business model in case the cooperatives are smaller (volume managed lower than 15,000 t) which should consider finding a large cooperative that could absorb the flow of by- product (olive stone) from these smaller cooperatives. Therefore, it opens new paths for olive mills to set the path towards a bioindustry concept increasing the amounts of materials valorised. The system presented incorporates as innovation the tailored design of the whole systems to be modular, adaptable for the volumes of olive mills, and with processes finely ted for olive cake. In this sense the processes are more efficient than those usually carried out by intermediaries and olive cake dealers, which use industrial equipment of different types, but not tailored for this specific by-product.

Recap of issues raised by the audience (rating from 1 to 5 in order of increasing emphasis)

Technical feasibility	3
Financial sustainability	4
Environmental impact	1
Public Acceptance	2
Government support	4

**Agenda:**



## PRÁCTICAS INNOVADORAS PARA BIOENERGÍA y BIOCARBONO CON BIOMASA AGRÍCOLA

ACCESO LIBRE – NECESARIO REGISTRO PARA ASISTENCIA PRESENCIAL Y PARA ACCESO A SESION ONLINE

**CONTENIDO**

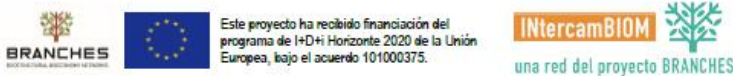
La jornada presentará tres innovaciones ya disponibles y aplicadas a restos agrícolas herbáceos y leñosos que pueden fomentar la expansión de nuevos usos de estas biomásas. El objetivo es presentar prácticas y casos de éxito que ejemplifican cómo poner en marcha nuevas cadenas de valor con biomasa de poda de vid para bioenergía, produciendo biocarbono de calidad a partir de restos herbáceos, u obteniendo hueso de aceituna como biocombustible con procesos optimizados.

Los promotores explicarán sus innovaciones y se abrirá una ronda de intercambio para conocer mejor cómo adoptarla y qué barreras es necesario vencer.

**AGENDA:**

	Hora	Contenido	Presenta
<b>INTRO-DUCCIÓN</b>	10:00	Recepción y registro de asistentes	
	10:10	La red IntercamBIOM. Qué es y cómo sacarle partido Anuncio del premio a la mejor práctica 2022	Maitel Gómez Equipo Valorización y Biomasa CIRCE Daniel García. AVEBIOM
<b>PRACTICAS INNOVADORAS</b>	10:35	Apostando por la circularidad- Desarrollo post-proyecto de la iniciativa Viñas por calor	Aureli Ruiz Ayuntamiento de Vilafranca del Penedes
	10:50	Prepoda de vid y recogida de sarmiento evitando que la biomasa caiga al suelo – El prototipo innovador de Serrat Trituradoras	Jose Serrat CEO Serrat Trituradoras
	11:05	Generando biocarbono torrefactado de restos agrícolas – La apuesta piloto de CENER	Javier Gil Director Departamento de Biomasa CENER
<b>PUESTA EN COMÚN</b>	11:20	Mejorando la calidad de un biocombustible como el hueso de aceituna- Limpiadora de hueso de Secaderos De La Loma	Joaquín Molina Secaderos De La Loma
	11:35	Mesa redonda. Identificar factores clave para la implantación de estas prácticas innovadoras	Modera Daniel García AVEBIOM
	12:15	Cierre, aperitivo y encuentro entre los asistentes	

Registro: <https://forms.office.com/r/1Hgg7rw7Q8>  
 Más info: [www.intercambiom.org](http://www.intercambiom.org)



Images:



Pictures: BRANCHES rollups and brochures were used in the workshop to advertise the BRANCHES project.





Pictures: Several innovative practices were presented during the workshop.



Pictures: 19 live attendees participated to the workshop.



Participant list:

**IntercamBIOM**  
Red de INTERCAMBIO de prácticas innovadoras con BIOMASA

**BRANCHES**  
BIOSYSTEM RURAL, BIOECONOMY NETWORKS

TALLER: PRÁCTICAS INNOVADORAS PARA BIOENERGÍA Y BIOCARBONO CON BIOMASA AGRÍCOLA

Feria FIMA. Centro de Congresos, sala 1

27/04/2022

Nombre y Apellidos	Empresa/ centro	País	Firma
JOSEP H. MARXET RABON	AMUNTAMIENTO VILAFRANCA DEL PENEDRÉS		
Ines Sampedro	Caral de Araçón y Cataluña	España	
louise BLANC	Universitat de Lleida	España	
Rubén Rip	Universitat de Lleida	España	
Laura Torrens	COIAR	España	
Senar Eudua	Rodriguez Eudua	España	
MOSES FALO ALOVEGAR	SILO ALCAÑIZ S.L.	España	
Ausa Chomel	AVIPE	Portugal	
Miguel Cunha	AVIPE	Portugal	

Este proyecto ha recibido financiación del programa de I+D+i Horizonte 2020 de la Unión Europea. Véase el acuerdo 101000375

**IntercamBIOM**  
una red del network **BRANCHES**

**IntercamBIOM**  
Red de INTERCAMBIO de prácticas innovadoras con BIOMASA

**BRANCHES**  
BIOSYSTEM RURAL, BIOECONOMY NETWORKS

TALLER: PRÁCTICAS INNOVADORAS PARA BIOENERGÍA Y BIOCARBONO CON BIOMASA AGRÍCOLA

Feria FIMA. Centro de Congresos, sala 1

27/04/2022

Nombre y Apellidos	Empresa/ centro	País	Firma
Javier Gil Raposo	CENER	ES	
Daniel García	AVERBIOM	ES	
José Luis Mallo	Secaderos de La Loma	ES	
Juan Jesús Ramo	AVERBIOM	ES	
Ignacio Mestre	INTA	ES	
Adolfo Ballester	GOBIERNO Aragón	ES	
Andrés Ballester	GOBIERNO Aragón	ES	
Laura Carbo Sans	AJ. VILAFRANCA DEL PDES.	ES	
Araceli Parra Niza	"	ES	
Rosita Planas Rius	USE Barcelona	ES	

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Template to collect feedback:

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BIOSYSTEM RURAL, BIOECONOMY NETWORKS

TALLER: PRÁCTICAS INNOVADORAS PARA BIOENERGÍA Y BIOCARBONO CON BIOMASA AGRÍCOLA

30 - 12 101 - Centro de Congresos, sala 1  
FIMA - Feria de Zaragoza

Parte de participante

Entidad pública  Empresa/ org empresarial  I+D+i / consultor  Asociación (des. rural, ONG, etc.)  Otros

Identifique (\*) **FABRICANTE MAQUINARIA AGRICOLA**

\*) No siempre coincide con la empresa u organización. Símbolo del país. Por ejemplo, en empresas agroalimentarias, distribución agroalimentaria, etc.

Marque del 1 al 5 su grado de interés al acercarse a este taller; desde 1 poco interés hasta 5, mucho interés

Conocer más de IntercamBIOM  Conocer las prácticas innovadoras  Me interesa una, me gustaría utilizarla  Proponer práctica innovadora  Otros

Puede especificar aquí

Indique para cada práctica innovadora su valoración con una X

PRÁCTICA INNOVADORA	Me interesa, quiero saber más	Para evaluar / entenderlo necesito verla	Es muy innovadora	Como tiene mucho potencial	Como que es factible
Apostando por la circularidad. Desarrollo postproyecto de la iniciativa Vilas por calor				X	
Prepoda de vid y recogida de sarmientos estando que la biomasa llega al suelo - El prototipo innovador de Serat Tronadoras				X	
Generando biocarbón torrefactado de restos agrícolas - La apuesta piloto de CENER				X	
Mejorando la calidad de un biocombustible como el hueso de aceituna- Limpadora de hueso de Secaderos De La Loma					X

Indique para cada práctica innovadora su potencial de replicación: 1 replicable sólo en casos muy concretos y 5 replicable en muchos municipios que cuenten con este tipo de biomasa

PRÁCTICA INNOVADORA	Valoración (1-5)	Comentarios
Apostando por la circularidad. Desarrollo postproyecto de la iniciativa Vilas por calor	5	
Prepoda de vid y recogida de sarmientos estando que la biomasa llega al suelo - El prototipo innovador de Serat Tronadoras	4	
Generando biocarbón torrefactado de restos agrícolas - La apuesta piloto de CENER	4	
Mejorando la calidad de un biocombustible como el hueso de aceituna- Limpadora de hueso de Secaderos De La Loma	2	

Indique las barreras principales para la implantación de estas prácticas innovadoras en otros puntos

PRÁCTICA INNOVADORA	Barreras	Comentarios

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**IntercamBIOM**  
Red de INTERCAMBIO de prácticas innovadoras con BIOMASA

**BRANCHES**  
BIOSYSTEM RURAL, BIOECONOMY NETWORKS

TALLER: PRÁCTICAS INNOVADORAS PARA BIOENERGÍA Y BIOCARBONO CON BIOMASA AGRÍCOLA

30 - 12 101 - Centro de Congresos, sala 1  
FIMA - Feria de Zaragoza

Red de INTERCAMBIO de prácticas innovadoras con BIOMASA

Desarrollada por la circularidad. Desarrollo postproyecto de la iniciativa Vilas por calor

Prepoda de vid y recogida de sarmientos estando que la biomasa llega al suelo - El prototipo innovador de Serat Tronadoras

Generando biocarbón torrefactado de restos agrícolas - La apuesta piloto de CENER

Mejorando la calidad de un biocombustible como el hueso de aceituna- Limpadora de hueso de Secaderos De La Loma

Indique acerca de la red IntercamBIOM

¿Cree que esta red puede elevar el interés de empresas y agentes de sector forestal, agrícola, agroalimentario y zonas rurales?

Si, hay ya conciencia de ello

En qué tecnologías, procesos o sectores le gustaría conocer innovaciones que ya están siendo utilizadas con éxito

Trasladar para aprovechar de los recursos en agricultura

Si conoce una práctica innovadora que nos quiera compartir puede señalarla

COMENTARIO LIBRE Puede escribir un comentario, recomendación, idea

Este proyecto ha recibido financiación del programa de I+D+i Horizonte 2020 de la Unión Europea. Véase el acuerdo 101000375

**IntercamBIOM**  
una red del network **BRANCHES**

## D. Annex 4 – Workshop Report “Workshop Germany”

### Name of the workshop

Regionale Bioökonomie in Zeiten der Krise

Regional bioeconomy in time of crisis

### Description of the workshop

The event started with the presentation of three best practices from the BRANCHES project, one from Germany, presented by Asli Hanci from Biowert Industrie GmbH and her innovative "grass factory", a biorefinery concept where grass is converted into green electricity and innovative materials. The following practice was presented by Robert Prinz from Natural Resources Institute Finland (LUKE) with the results of a consolidated wood value chain and references to other innovative practices available on the BRANCHES website. Finally, the Rasen district heating plant in South Tyrol and its development and adaptations over the last decades were presented by Benno Eberhard (Consiglio Nazionale delle Ricerche, Italy).

A final presentation on the best practices collected by the Spanish network was prepared but could not be presented that day due to time constraints. However, it has been included in the present material for reference.

One of the highlights of the event was the panel discussion, which included Dr. Brigitte Kempter-Regel from BIOPRO Baden-Württemberg GmbH, Maxie Grüter from the Institute for Food and Environmental Research e.V. (ILU), and Dr. Aennes Abbas, speaker of the Bioeconomy Cluster Initiative of the Rhine-Neckar Metropolitan Region (MRN).

Finally, the latest news from the BRANCHES NTN network were presented: 1) the launch of the "Best Innovative Practice" competition for 2023, 2) the initiative to visualize the network participants and 3) other planned activities for the next year.

Workshop type  online  physical  hybrid  other, please specify: physical, but some participants were given online access to the presentations\_\_\_\_\_

Workshop organization  stand-alone  
 in connection with another event (please specify \_\_\_\_\_.)  
 other

BRANCHES working package:  WP1  WP2  WP3  WP4

### Goal of the workshop

The workshop was organized with the German NTN “Bioökonomie in der Praxis” on the 30.11.2022 with the aim to share key practices identified in the German bioeconomy to the participants, as well as to provide a view on the innovative practices collected in BRANCHES project from Spain, Finland and Italy.

The main topic of the workshop was on the possibilities of the rural bioeconomy in different federal states in Germany in times of current global challenges. The key factors to further drive the transformation to a bio-based circular economy and thus support the initiatives in rural areas were discussed in addition to the current barriers and key actions to be taken.

**Place & region of workshop**

Online
Region: Germany

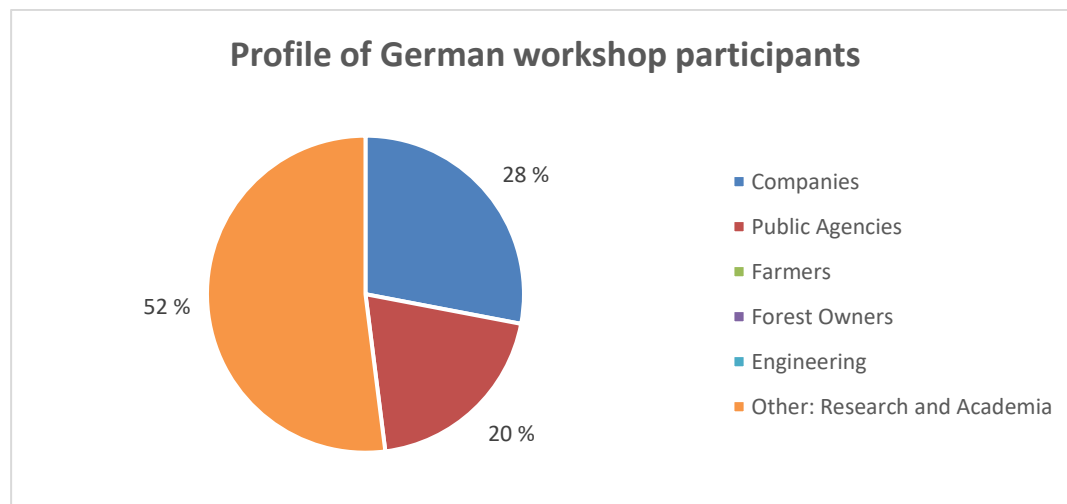
**Date of workshop:** Wednesday 30<sup>th</sup> November 2022 from 9:00 to 11:30 am

**Organizers:**

German NTN Management team: DBFZ, UFZ and Bioeconomy Cluster e.V



**Number of attendees: 25**



Audience breakdown (n° of attendees)	Category	Count
	Companies	7
	Public Agencies	5
	Farmers	-
	Forest owners	-
	Engineering	-
	Other: Research and Academia	13

Attending companies are from following topics: Engineering, biorefineries, biogas and other forms of bioenergy, and biomaterials.

## Moderator's summary

The following summary includes the main opportunities and challenges related to the presented best practices that were discussed during the workshop.

### Asli Hanci - How meadow grass is turned into sustainable plastic

Website: <https://biowert.com/>

- Opportunities: Full use of biomass (circular economy), preservation of grassland with no other use or ecological value
- Challenges: Transferability in rural areas. Substitution of natural gas by biogas? -> internal biogas plant (unfortunately less biomass available through Corona), higher costs compared to "traditional" products (keyword CO<sub>2</sub> tax/certificates)

### Robert Prinz - Innovations in Finland: Wood biomass terminals for energy supply

Website: <https://www.luke.fi/en>

- Opportunities: Centralized organization and supply of heating systems, renewable heat -> less CO<sub>2</sub> emissions
- Challenges: Cascade utilization. Reforestation and sustainable forest management and land use restrictions

### Benno Eberhard - Innovations in Italy: District Heating Plant/Combined Heat and Power Plant in South Tyrol

Website: <https://www.cnr.it/>

- Opportunities: High acceptance by the population due to "take along", progress engine in the region
- Challenges: Interplay of different local factors and actors presented and how to promote these dynamics

### Key points from the panel discussion:

#### What (policy) initiatives exist or would be needed in your region on rural bioeconomy and linking rural areas with bioeconomy industries?

- Enabling off-take (political or industrial), need for coordinated lobbying and influence and coordination also across states
- Strengthen municipalities in implementing initiatives and do not "leave them hanging" -> Played trust, clarify availabilities of biomass and make them plannable

#### What do you think are the most important factors at the regional level for the development of these innovative measures?

- Long-term plannability, creation and promotion of lighthouse projects, reaching farmers or other practitioners at associations or events by these actors, promoting and establishing production chains, differences in funding to develop the bioeconomy
- Learning from examples from other states (involvement of all actors, minimizing risks, developing common strategies with all actors)

#### How are bioeconomy actors responding to the current energy and resource crisis?

- Generally positive perception of sentiment among actors
- Crisis as innovation driver?

Recap of issues raised by the audience (rating from 1 to 5 in order of increasing emphasis)

Technical feasibility	1
Financial sustainability	3
Environmental impact	2
Public Acceptance	5
Government support	4

### Agenda and invite to the workshop:



Online Veranstaltung



#### Regionale Bioökonomie in Zeiten der Krise

##### Workshop Netzwerk „Bioökonomie in der Praxis“

Was sind mögliche Wege, die die Regionen in Richtung einer kohlenstoffneutralen Transformation gehen? und wie stellt sich diese Transformation in der ländlichen Bioökonomie dar?

Was sind beispielhafte Praktiken, die eine nachhaltige Energieversorgung und eine innovative Nutzung von Ressourcen unterstützen?

Während des dritten Workshops des Netzwerks "Bioökonomie in der Praxis" werden wir die Möglichkeiten der ländlichen Bioökonomie in verschiedenen Bundesländern in Deutschland diskutieren. Dabei betrachten wir die aktuellen Einschränkungen bei der Ressourcen- und Energieversorgung und die Maßnahmen, die ergriffen werden können, um die Transformation zu einer biobasierten Kreislaufwirtschaft weiter voranzutreiben.

##### Agenda

###### 09:00 Begrüßung und Technischeinführung

Niklas Grimm – Bioeconomy Cluster e.V

###### 09:10 Nationale und internationale bewährte Praktiken (30 min)

Bewährte Praktiken, die die Energie- und Ressourcenunabhängigkeit unterstützen und wie sie mit der aktuellen Lage umgehen

- **Wie aus Wiesengras nachhaltiges Plastik entsteht.**  
*Mrs. Asli Hanci - Biowert Industrie GmbH*
- **Innovative finnische Praktiken**  
*Mr. Robert Prinz - Natural Resources Institute Finland (LUKE)*
- **Innovative Praktiken aus Italien**  
*Mr. Benno Eberhard - National Research Council of Italy*

Fragen und Antworten (10 min)

###### 09:40 Podium-Diskussion und Interaktiver Austausch (60 min)

Moderator: Niklas Grimm – Bioeconomy Cluster e.V

- **Bioökonomie Clusterinitiative der Metropolregion Rhein-Neckar**  
*Dr. Aennes Abbas - Referent für Bioökonomie (Fachbereich Zukunftsfelder und Innovation)*
- **Institut für Lebensmittel- und Umweltforschung e.V. (ILU)**  
*Maxie Grüter - Projektleitung Koordinierungsstelle*
- **BioPro GmbH - Baden-Württemberg**  
*Dr. Brigitte Kempfer-Regel - Teamleitung Bioökonomie*

###### 10:40 Was ist im Netzwerk los?

- Rückblick im Jahr 2022
- Ausblick: Fahrplan mit folgenden Netzwerk Aktivitäten
- Visualisierung des Netzwerks
- Kurze Feedback-Runde
  - Interaktiver Austausch

###### 12:00 Verabschiedung



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 10100375