

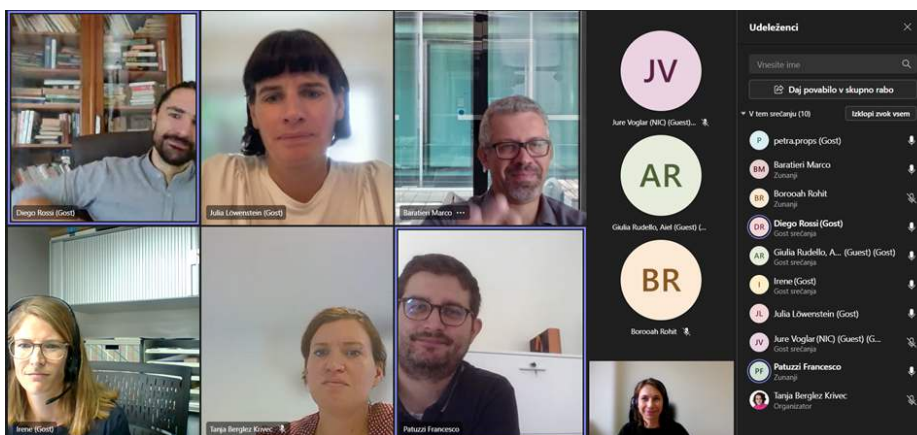


Alps4GreenC Novice | News

November 2023

Septembra 2023 je potekal spletni **sestane** **projekta Alps4GreenC**, ki ga je organiziral slovenski partner ŠGZ. Partnerji iz Slovenije, Avstrije in Italije projekt izvajajo v okviru **programa Interreg Alpine Space** in pod koordinacijo Kemijskega inštituta ter se osredotočajo na **vzpostavitev celovitega okvira za uporabo ostankov biomase za proizvodnjo bioogljja** na medregionalnem območju.

In September 2023 an online project **meeting of the Alps4GreenC project** was organized by the Slovenian partner CCIS. Partners from Slovenia, Austria and Italy implement the project within the **Interreg Alpine Space Programme** and under the coordination of the National Institute of Chemistry and focus on creating a **comprehensive framework for the use of biomass residues for biochar production** in the interregional space.



KARTIRANJE DELEŽNIKOV | STAKEHOLDER MAPPING

Naš cilj je povezati dobavitelje biomasnih ostankov in proizvajalce bioogljja, zato pripravljamo **interaktivni zemljevid**, ki bo povezal različne deležnike iz Avstrije, Italije, Slovenije in širše, kar bo omogočalo povezovanje, izmenjavo znanja in dobrih praks. >>> [AIEL](#)

Our ambition is to connect biomass residue suppliers and biochar producers, therefore we are preparing an **interactive map** that will connect different stakeholders from Austria, Italy, Slovenia and beyond to enable them to network and share knowledge and best practices. >>> [AIEL](#)

TESTIRANJE OSTANKOV IN PILOTNA PROIZVODNJA BIOOGLJA | TESTING RESIDUES AND PILOT BIOCHAR PRODUCTION

V Alps4GreenC je načrtovana izraba ostankov biomase kot surovinskega vira za proizvodnjo bioogljja. Za izvedbo laboratorijskih in pilotnih raziskav je bila v vseh treh državah izvedena **kampanja zbiranja trdnih ostankov biomase** (Dec22-Feb23) različnih proizvajalcev, ki bi želeli ostanke valorizirati. Pozivu se je odzvalo skupno **22 organizacij**, deset iz Italije, osem iz Avstrije in štiri iz Slovenije. Na podlagi določenih karakteristik ostankov biomase sta projektna partnerja UNIBZ in BEST GmbH izbrala

The Alps4GreenC uses biomass residues as a raw material source for biochar production. In order to carry out laboratory and pilot studies, a **crowdsourcing campaign** (Dec22-Feb23) was conducted in all three countries to collect solid biomass residues from producers that would like to valorize the residues. A total of **22 organisations** responded to the call, ten from Italy, eight from Austria and four from Slovenia. Based on the identified characteristics of the biomass residues project partners UNIBZ and BEST GmbH selected the raw materials

surovine, primerne za izvedbo piroliznih oziroma uplinjevalnih postopkov.

V laboratoriju karakteriziramo in testiramo deset izbranih vrst biomasnih ostankov, da bi preverili ali so primerni za proizvodnjo biooglja. V naslednjem koraku bosta naša projektna partnerja testirala dve vrsti ostankov za pilotno proizvodnjo biooglja z uporabo uplinjanja in pirolize. Kot surovina za pilotno testiranje z uplinjanjem so bili izbrani ostanki lesa, ki ga je poškodoval lubadar. Pilotna proizvodnja biooglja z uplinjanjem poteka v laboratoriju za bioenergijo in biogoriva Univerze v Bolzanu - [UNIBZ](#). Podjetje [BEST GmbH - Bioenergy and Sustainable Technologies](#) je pred kratkim odprlo [laboratorij za zeleni ogljik](#) z dvema reaktorjema za pirolizo. V okviru projekta Alps4GreenC bodo novo nameščeni pirolizni reaktor uporabili za pilotno proizvodnjo biooglja iz ostankov orehovitih lupin. V zadnji fazi bo [Odsek za katalizo in reakcijsko inženirstvo](#) Kemijskega inštituta analiziral pridobljeno biooglje. S tem se bo pridobila ocena potenciala uporabe zelenega biooglja v kmetijstvu.

suitable for the pyrolysis or gasification processes of biochar.

Ten types of biomass residues provided by producers have been characterised and tested in the laboratory to see if they are suitable for biochar production. In the next step, our project partners will test two types of residues for pilot biochar production through gasification and pyrolysis. Wood residues damaged by the bark beetle were selected as feedstock for the gasification pilot tests. The pilot production of biochar by gasification is being carried out at the [Bioenergy and Biofuels Laboratory of the University of Bolzano-UNIBZ](#). [BEST GmbH - Bioenergy and Sustainable Technologies](#) recently opened a [green carbon laboratory](#) with two pyrolysis reactors. The newly installed pyrolysis reactor will be used for pilot biochar production from walnut shell residues. Read more about the new green carbon laboratory. In the final phase, the [analysis of the produced biochar](#) will be carried out by the [Department of Catalysis and Chemical Reaction Engineering](#) (National Institute of Chemistry). This will allow an assessment of the potential for the use of green biochar in agriculture.

TESTIRANJE ŠTIRIH VRST BIOMASNIH OSTANKOV | TESTING FOUR TYPES OF BIOMASS RESIDUES



PIRINE LUŠČINE | SPELT HUSKS

Pri pridelavi pira nastajajo določeni kmetijski ostanki v obliki luščin. Na količino ostankov vplivajo sezonska nihanja. Potreba po zagotavljanju skladiščnega prostora je **kmeta iz Spodnje Avstrije** spodbudila, da se pridruži množični kampanji zbiranja biomasnih ostankov, ki smo jo izvedli v okviru projekta Alps4GreenC. V predelavi kmetijskih ostankov - pirnih luščin, ki nastajajo pri njegovi dejavnosti, v biooglje, vidi **priložnost za povečanje dodane vrednosti njegove dejavnosti in hkrati zanimivo uporabo za izboljšavo kakovosti tal.** |Foto [1]Pira [2]Vzorec prirnih luščin ©BEST

Spelt cultivation produces certain agricultural residues in the form of spelt husks. The quantity of these residues is seasonal. The need to provide storage space motivated a **farmer from Lower Austria** to participate in the crowdsourcing campaign for the collection of biomass residues, which was carried out as part of the Alps4GreenC project. He sees the possibility of converting his farm's agricultural residues into biochar as both an **opportunity to increase the added value of his farm and an interesting option to improve soil quality.** |Photo [1]Spelt [2]Sample of spelt husks ©BEST



OREHOVE LUPINE | WALNUT SHELLS

Ena od vrst biomasnih ostankov, ki jih testiramo, so **orehove lupine**, ki nastajajo pri predelovalni dejavnosti **podjetja Austrian Nussland GmbH**. Julia Taubinger in Marcus Schindelegger iz podjetja Nussland sta med analizami obiskala projektnega partnerja BEST. Podjetje Nussland ostanke že uporablja za **proizvodnjo energije**, vendar vidi biooglje kot priložnost za **ustvarjanje še višje dodane vrednosti pri proizvodnji svojih produktov.** >>> |Foto[3] Julia Taubinger [4]Biomasni ostanki - orehove lupine ©BEST

One of the residues tested are the **walnut shells** from the **Austrian Nussland GmbH**. Julia Taubinger and Marcus Schindelegger from Nussland visited the project partner BEST - Bioenergy and Sustainable Technologies in Wieselburg during the analyses. Nussland already uses the residues to **generate energy**, but sees the biochar as an opportunity to **add even more value to its production**. >>> | Photo [3] Julia Taubinger [4] Biomass residues - walnut shells ©BEST



KAVNE PLEVE | COFFEE CHAFFS

Zanimivi biomasni ostanki, ki jih testiramo za proizvodnjo biooglja so **kavne pleve** podjetja **Barcaffé**. "Alps4GreenC je naša priložnost, da se **poglobimo v trajnost**, pri čemer smo še posebej navdušeni nad **potencialom biooglja** - materiala, pridobljenega iz organskih virov, vključno s kavnimi plevami. Verjamemo, da bo sodelovanje v tem projektu razširilo naše razumevanje, kako lahko bioogljje koristi okolju. Naš cilj je, da **spoznanja**, ki jih bomo pridobili v okviru projekta Alps4GreenC, **uporabimo za izboljšanje naših praks in procesov**." >>> | Foto [5] Obisk slovenskih partnerjev v podjetju Barcaffé [6] Biomasni ostanki - kavne pleve ©ŠGZ/CCIS

The **coffee chaffs** from **Barcaffé** is another source of biomass residues that is being tested for biochar production. "Alps4GreenC is our opportunity to **delve deeper into the topic of sustainability**, and we are particularly excited about the **potential of biochar** - a material derived from organic sources, including coffee chaffs. We believe that participating in this project will broaden our understanding of how biochar can benefit the environment. Our aim is to **use the knowledge gained from Alps4GreenC to refine our processes and procedures**." >>> | Photos: [5] Slovenian partners visiting Barcaffé [6] Biomass residues - coffee chaffs ©ŠGZ/CCIS



LESNI OSTANKI | WOODCHIPS RESIDUES

Zaradi globalnega segrevanja se v italijanskih, slovenskih in avstrijskih gozdovih povečuje število **napadov lubadarjev**, ki povzročajo vse več **poškodovanega lesa**, neprimerne npr. za pohištvo, gradbeništvo ali druge industrije. Še vedno pa ga je mogoče **uporabiti v energetske namene**. Zato UNIBZ testira te lesne ostanke kot **potencialni vir za bioogljje** v svojem pilotnem uplinjevalniku, ki je na voljo v laboratoriju za bioenergijo in biogoriva na UNIBZ. >>> | Foto [7] Les, ki ga je poškodoval lubadar [8] Lesni ostanki, ki ga je zagotovil Dapoz Roland ©UNIBZ

Due to **global warming**, **bark beetle infestation** is increasing in Italian, Slovenian and Austrian forests, causing more and more **damaged wood** that is unsuitable for e.g. furniture, construction or other industries. However, it could still be used for **energy purposes**. Therefore, UNIBZ is testing the **wood affected by bark beetle as a potential resource for biochar** in its pilot gasifier, which is available at UNIBZ's Bioenergy and Biofuels Laboratory. >>> | Photo [7] Wood affected by bark beetle [8] Woodchips provided by Dapoz Roland ©UNIBZ



PRILOŽNOSTI PRETVORBE BIOMASE: Analiza konteksta & vrzeli | BIOMASS CONVERSION OPPORTUNITIES: Context & Gap Analysis

Kaj je potrebno za povečanje obsega proizvodnje biooglja? Kaj je potrebno za promocijo biooglja kot podnebju prijazne alternative fosilnim gorivom ali gnojilom? V okviru analize kontekstov in vrzeli bo projektni partner ŠGZ analiziral pravni okvir za uporabo biomase ter nacionalnim in regionalnim organom podal predloge za izboljšave (npr. sheme podpore).

What is needed to increase biochar production volumes and promote biochar as a climate-friendly alternative to fossil fuels or fertilisers? As part of the context and gap analysis, the project partner CCIS analyses the legal framework for biomass and provides proposals for improvements (e.g. support schemes) to the national and regional authorities.

Save the date!
ZAKLJUČNA KONFERENCA | FINAL CONFERENCE
Alps4GreenC PROJECT
25/01/2024
Wieselburg, Austria

Vabimo vas, da izveste več o bioogljju in rezultatih našega projekta.

We invite you to learn more about biochar and our project results!

Vključno s podelitvijo nagrad za deležnike in obiskom novega laboratorija za zeleni ogljik v prostorih podjetja BEST GmbH.

Including a stakeholder awards ceremony and a visit to the new Green Carbon Lab at BEST GmbH.

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VEČ O PROJEKTU | MORE ABOUT THE PROJECT



Dr. Jure Voglar o projektu [Alps4GreenC](#) v oddaji Ljudje in zemlja na RTV Slovenija v okviru projekta Zelena kohezija za mlade (od 11:14 min)

Dr. Jure Voglar on the [Alps4GreenC](#) project in Ljudje in zemlja on RTV Slovenia as part of the Green Cohesion for Youth project (from 11:14 min) [>>>](#)



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