



## STRATEGIC TOOLS TOWARDS A SUSTAINABLE USE OF BIOMASS FOR LOW CARBON DOMESTIC HEATING

*Dear reader,*

*Welcome to the fourth edition of our BB-CLEAN newsletter!*

*Who could imagine how are lives will change in the last few months? Just like that, our freedom contained, our social life disrupted. Things we considered imposible and unbelievable. Yet here we are, some of us working from the comfort of our home, others working in an environment where social distancing is the new reality. If not anything else, these last few months gave us an opportunity to ask ourselves – what is our environment trying to tell us? What kind of world are we trying to leave behind? I guess it is possible to produce less waste and less CO<sub>2</sub> emissions, and to not exploit our planet in ways it can no longer recover. Who would imagine it can quite literally be done overnight? I guess it is not as hard to change our ways and habits as they wanted us to believe. And maybe it is finally time we start listening.*

*Enjoy the latest edition of BB-Clean newsletter. And stay safe!*

*If you'd like to keep up with our latest activities and developments, please follow us on our website:*  
<http://www.alpine-space.eu/projects/bb-clean/>



### BB-CLEAN 4th PROJECT MEETING

*Connecting partners from the comfort of their homes.*

From 14<sup>th</sup> to 16<sup>th</sup> of April 2020 BB-CLEAN partners participated on the 4<sup>th</sup> project meeting. This time participation was a bit different, as personal contact was replaced by a three-day online discussion. As it turns out we can be just as efficient, as the latest development of the project shows we are on a good path, and work for the next 6 months was planned accordingly. In WPT2 a video will be made to present the experimentation measurements of volunteers who participated in the citizen experiment in Austria and France. In WPT3 winter monitoring campaigns in Italy were implemented with interesting results and in WPT4 new and interesting booklets will be available soon: “Booklet on auxiliaries to be coupled to biomass combustion appliances and energy saving methods” and “Booklet on pollution abatement systems”.

4<sup>rd</sup> project meeting showed considerable progress and a great working dynamic among partners. Let us see what next months will bring!





## BB-CLEAN PARTICIPATES ON SECOND TRANSNATIONAL EVENT

*From 22<sup>nd</sup> to the 24<sup>th</sup> of January BB-Clean project partners UCSC and FHJ participated on the 6<sup>th</sup> Central European Biomass Conference (CEBC) in Graz, organized by the Austrian Biomass Association, the Agricultural Chamber of Styria and BEST Bioenergy and Sustainable Technologies and hosted by the Messe Congress of Graz.*

“Greening the Strategies” acted as a central topic of the 6th version of the CEBC and it examined whether the existing greening strategies are sufficient enough to serve as a realistic exit from fossil fuels. In the wake of current debates, the topics of sustainable energy policy, future markets and the closing of circuits also played a major role at the conference, as well as the ambition of Austria's carbon neutrality goals. Furthermore, the latest developments in the bioenergy industry in 200 expert lectures in 28 different sessions and workshops with topics like bioeconomy, decarbonisation, biomass and residue potentials, pyrolysis were presented. Goals and latest outcomes of BB-Clean project were presented by Maria Chiesa from UCSC, while FHJ presented the results of monitoring of particulate matter in the alpine region with a black carbon monitor.

CEBC2020 offered the possibility to attend more than 250 lectures distributed both in plenary sessions and 20 parallel sessions from the 22<sup>nd</sup> to the 24<sup>th</sup> of January. Poster sessions also offered an added value to the conference giving to participants the possibility to gain information on topics not presented in lectures and/or discussed in plenary and parallel sessions that they were not able to attend.



Lecturers mainly came from EU Research Institutions, Enterprises, Regional and National administrations and Biomass Associations so that topics discussed concerned technological and regulative aspects as well as economic and environmental sustainability aspects linked to the biomass chain. Topics of interest for BB-Clean covered by CEBC2020 concerned the up to date technical solutions related to the development of small to medium scale biomass combustion appliances for residential heating as well as primary and secondary measures to mitigate the

environmental impact of biomass combustion. Even the role of the end user on the final emissions of a specific biomass combustion appliance was emphasized, thanks to the research work of TASK 32 of the International Energy Agency (IEA) that aims at fostering the awareness raising on the environmental impact of biomass combustion among general population in order to change the end user behaviour for a more sustainable biomass burning. Representatives of EU enterprises discussed the pros and cons of technical solutions to mitigate the environmental impact of biomass combustion technologies as well as their actual and short-to medium term diffusion on the market.

Interesting lectures were even given by Austrian policymakers that operate in the field of Bioenergy. In particular, Leonore Gewessler, Federal Minister for Climate Protection, Environment, Energy, Mobility, Innovation and Technology participated to CEBC2020. She stressed the primary role of Austria in reaching the Climate Neutrality in 2040 with an energy system based on renewable energies by 100%. Biomass will play a strategic role and the presence of an excellent expertise due to Research Institutions and developers of biomass combustion technologies located in the Austrian territory will drive a worldwide change in the market. The Austrian Association of Biomass (one of the CEBC2020 organizers) also stressed the importance of bioenergy to substitute fossil fuels in driving the change announced by the Federal Minister.

Within sessions of CEBC2020 BB-Clean project was by Maria Chiesa from UCSC. Additionally, there was a poster to the BB-Clean project with the topic “Monitoring of particulate matter in the alpine region with a black carbon monitor” held by FH JOANNEUM.



## THE WINTER MONITORING CAMPAIGNS

*UCSC was back in Storo and Vezza d’Oglio during January and February 2020, to conclude the experimental activities of WPT3.*

During summer time three different types of measurements were performed: fluxes, vertical profiles and pseudo-gradients. In order to understand the seasonal effects, and thereof the impact of biomass burning, the same variables were monitored in winter as well.

An Eddy-Covariance monitoring station was installed on the valley floor to estimate the emission or deposition of PM and measuring other interesting variables useful for the characterization of the atmosphere, such as sensible and latent heat fluxes. Five meteo-microstation equipped with PM low-cost sensors and temperature and humidity probes were set on the slope of the mountain, from the valley floor up to 1000 m agl. The microstations will help to investigate the dispersion performance of the atmosphere 24/7.

The tethered balloon vertical profiles and the aethalometer BC measurements were an added winter bonus. The tethered balloon was equipped with the same PM low-cost sensor and temperature and humidity probe as the meteo-microstations. A monitoring system by National Research Council (CNR) of Florence was located on the balloon so that it was also possible to obtain CO<sub>2</sub>, VOC and NO<sub>x</sub> concentrations. A miniaethalometer AE51 was also available, thanks to the Cassino University, to monitor BC vertical profiles. Under favourable meteorological weather conditions the balloon was



launched at least three times a day for a week in Storo and Vione. The APPA-Trento aethalometer (AE33) was installed in both pilot areas during the “balloon week” so that the impact of biomass burning on black carbon concentrations could be estimated and distinguished from the fossil fuels fraction.

The researchers will now concentrate on the data analysis and the comparison between the data and the prediction model. Stay tuned for updates!



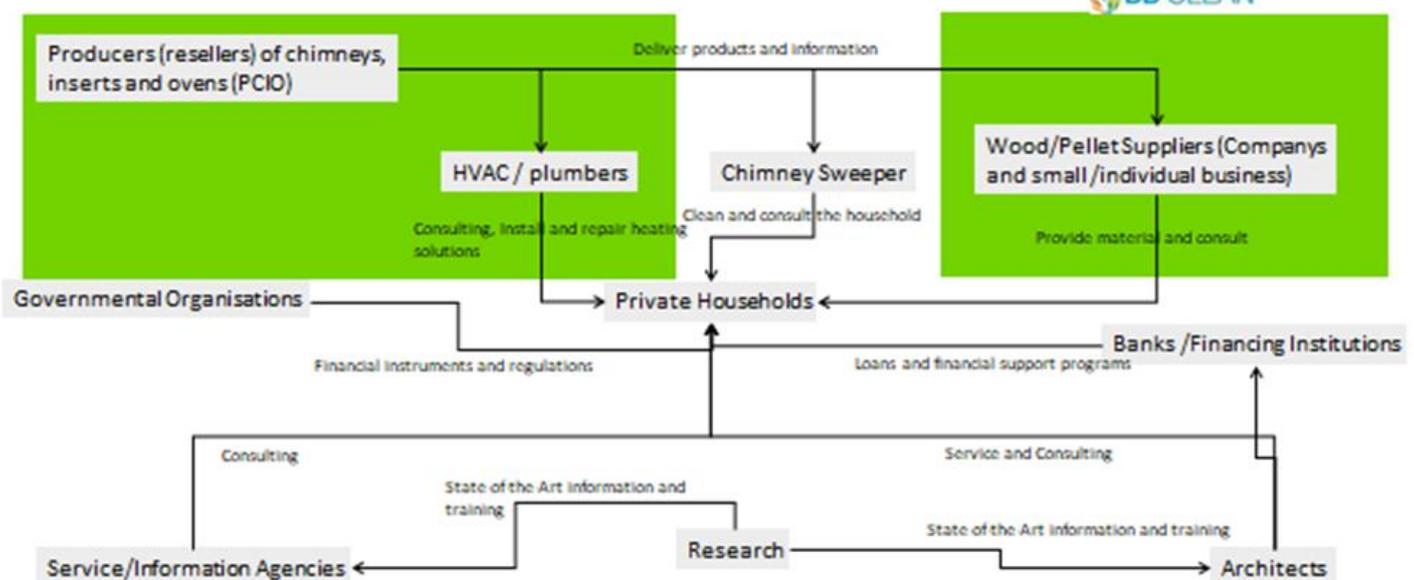
## DEVELOPMENT OF INNOVATIVE BUSINESS MODELS TOWARDS CLEANER BIOMASS BURNING

### *How to design new business models along the value chain?*

In the context of WP 4 project partner Econcept is developing innovative business models with potential stakeholders in the value chain. Based on the evaluation of the actual ecosystem, Econcept identified interested companies and is planning to design innovative business models with a group of them. The idea behind it is to understand, if the new clean biomass burning technologies and efficient use can also be promoted by these private business models and not only by governmental financial instruments and regulations. When we have defined the new business models, we can then discuss whether new financial instruments can be designed focused on these new approaches. We will use the well-known St. Galler Business model navigator™ with its unique business model pattern approach.

This activity will be implemented through a series of workshops. Due to the corona-pandemie the workshops will be organized as online events. Workshops are open for companies to join! For further questions, contact: [marc.tobias@econcept.org](mailto:marc.tobias@econcept.org)

### New Business Models for who?

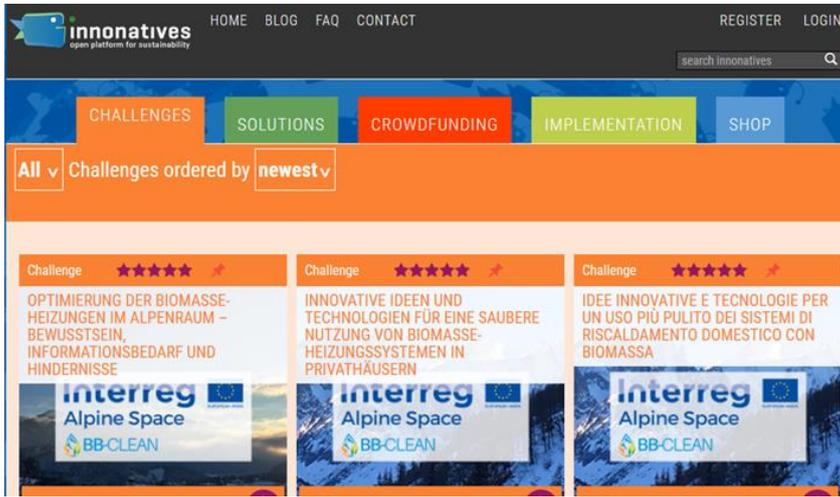


## FINALISATION OF THE CROWDSOURCING CHALLENGES

### *Awareness raising to promote cleaner biomass burning*

One of the focuses of WP2 was to understand, if we can use open innovation structures to raise the awareness of a larger public about cleaner biomass burning, by using the platform [www.innovatives.com](http://www.innovatives.com). We were interested to see, if we could gather interesting ideas from citizens in the context of two challenges: one related to awareness and communication, the other related to usage optimization of the heating installations.

The challenges were open for 6 months, which resulted in 4.700 people visiting the website and an active participation of approximately 50 people gathering 40 ideas.



These figures represent normal participation on internet platforms following the 90-10-1 rule. This means, if you approach 1000 persons and 900 (90%) persons are not reacting, 10% of the 1000 (=100 persons) are visiting your website and 1% of this 10 % (so 1 of 100 persons) register, comment or interact in any way.

40 collected ideas differ a lot regarding the level of innovativeness and details. The ideas will be collected in a project deliverable D2.3.1 (Report on crowdsourcing activities)

and available on BB-Clean website.

To summarize: while crowdsourcing can be used to enhance awareness in the context of clean biomass burning, it is not so suitable for identifying new innovative technologies. Here a more expert focused activity would be useful, for example “expert innovation journey”.

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## BB-CLEAN BIOMASS CHAIN KNOWLEDGE PLATFORM

*With the completion of WPT1 - Knowledge building activities and related outputs, the BB-CLEAN project finally released the “Biomass chain knowledge platform”.*

The biomass chain knowledge platform, to be intended as the information base for the development of all others project activities and as an awareness raising tool for public and private stakeholders, will contribute to better linking between the different actors involved in the biomass chain. More aware public and private stakeholders will be better integrated into strategies development, toolbox & platform implementation during project life and beyond.

More in depth, the platform is a comprehensive repository of knowledge composed by six different documents touching all topics related to the biomass chain: from the biomass production, with a special focus on local availability and main market characteristics in project pilot areas, to the biomass burning carbon emissions in domestic heating, with particular regards to their impact on air quality in Alpine regions.

Among these two extremes the platform includes the others fundamentals links of the chain: a booklet on best available technologies (BAT) in domestic heating powered with wood log, wood chips and pellet, and two in-depth surveys on economical/financials instruments and regulations adopted in different regions and countries around the Alpine Space.

Finally, the knowledge platform has been enhanced with the so-called EEA-Tool. A specific instrument conceived by BB-CLEAN in order to evaluate, from the transnational point of view, financials instruments and regulations adopted in BB sector in different Alpine Space regions. Starting from this tool it will be possible for policy makers and experts perform a first evaluation of new or improved measures in biomass burning (BB) sector, thus making possible a better appreciation of the related effects and benefits prior to its implementation.

The knowledge platform is available on the BB-CLEAN web site at the following link:

<https://www.alpine-space.eu/projects/bb-clean/en/project-results/implementation/knowledge-building-t1->

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## PARTNERS START WORKING ON WP5

*First step was an invitation to join the BB-Clean expert group.*

In October 2019 project partner E-Zavod started with activities for the work package 5. The aim of this work package is the development of low carbon policies for the Alpine Region focused on a sustainable use of biomass to mitigate biomass burning impact on climate change and air quality. The first step was to identify and to invite the participants from all projects countries to join the BB-Clean Expert group. Next will be the draft of the country specific policy framework and listing of challenges and key actors based on desktop survey to point out local/regional/national specific challenges. In the next months we will discuss the challenges and search for policy solutions for cleaner biomass burning through workshops and roundtables with participants of the BB-Clean Expert group.

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## ABOUT US

**Interreg**  
**Alpine Space**

European Regional Development Fund



**Follow us on our website and social media profiles, to find out more:**

<http://www.alpine-space.eu/projects/bb-clean/>

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