

Short Rotation Woody Crops (SRC) plantations for local supply chains and heat use

Project No: IEE/13/574



# Report on second training event for small and medium users of woodchips in Achenal region / Germany

*WP 5 – D 5.3*

November 2016



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The SRCplus project (Short Rotation Woody Crops (SRC) plantations for local supply chains and heat use) is supported by the European Commission in the Intelligent Energy for Europe Programme. The sole responsibility for the content of this report lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the EASME nor the European Commission are responsible for any use that may be made of the information contained therein. The SRCplus project duration is March 2014 to April 2017 (Contract number: IEE/13/574).



Co-funded by the Intelligent Energy Europe  
Programme of the European Union

SRCplus website: [www.srcplus.eu](http://www.srcplus.eu)

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## **Acknowledgements**

The authors would like to thank the attending boiler manufacturers, the chipping companies and all members of the BAT for their participation and their efforts in order to have such an impressive training event and open house day.

## Abbreviations

BAT	Biomass Trading Centre Achenal
CO <sub>2</sub>	Carbon dioxide
No.	number
SRC	Short Rotation Coppice
WP	work package
MW <sub>th</sub>	Megawatt (thermal)

## 1 Introduction

The second training event for small and medium users of woodchips in the Achenal region took place at Grassau, Germany. The main aim of all WP5 training events is to transfer the knowledge on SRC to small and medium users of wood chips. Fortunately, it was possible to combine the training with the 10<sup>th</sup> anniversary of the BAT, celebrating an open house day with a big (trade) exhibition, guided tours through the biomass heating plant and local district heating system and a framework program including the training event. Through this combination, it was possible to mobilising broad attention and at the same time giving an impressive illustration of innovative technologies for wood chips production, combustion and heat supply.

The agenda of the training event comprised of the following topics:

- Introduction SRCplus project.
- Overview on SRC plantations (seedlings, rotation period, harvest).
- Business models for implementing SRC wood chips in the supply chain of the heating plant located in Grassau.
- Model for implementing SRC plantations in the regional efforts of climate change mitigation.
- Positive effect of biomass production and utilisation on the regional development and the environment.
- Characteristics of forestry wood chips and wood chips from SRC.
- Wood chip quality requirements for specific wood chip boilers (particular boiler producers, combustion technologies and scale).
- Effects of different chipper settings on the wood chip quality.

The lectures on the various items were rounded up through a discussion with attending experts and participants, a production (in real-time) of wood chips in different qualities and a guided tour to the heating plant.

**Table 1: Training events for farmers in the Achenal region / Germany**

Location	Date	Number of participants	Number of received questionnaires
Grassau	27.10.2016	100	0

## 2 Training event at Grassau

### 2.1 Basic information

Location/ Country: Germany	Partner.	No. of event: 2
No. of participants: 100	Place: BAT Grassau	Date: 29.10.2016
Target groups: small and medium users of woodchips traders of wood chips		

## 2.2 Topics of the training event

The training event at Grassau started with a short introduction of the manager of the Biomass Trading Centre Achenal, Wolfgang Wimmer. He gave a warm welcome to all the attending participants. As first lecturer Wolfgang Wimmer also gave a general insight into the SRCplus-project. He explained the background of SRCplus and gave a short overview of the project objectives and the activities, which already have been performed in the Bavaria and in the SRCplus partner regions.



Figure 1: Dr. Willie Stiehler of the new established energy agency “Energieagentur Südostbayern GmbH”

As second lecturer Dr. Willie Stiehler (Energieagentur Südostbayern GmbH) used the opportunity to introduce the newly established energy agency of southeast Bavaria (see Figure 1). The energy agency is an elementary component in the energy policy of the two districts “Traunstein” and “Berchtesgadener Land” in terms of climate change mitigation. It is further located at Traunstein and shall act as a centre for all renewable energies in the region. Within the action plan of the local/district climate change mitigation, Dr. Willie Stiehler mentioned that SRCs could play a leading role in combining the target of a local, sustainable energy supply by wood chips with the overall objective of reducing greenhouse gases.

Mitigation of greenhouse gases and by that climate change was also the main topic of the second lecturer Hans Haslreiter. Hans Haslreiter, a local expert responsible for climate change mitigation in the Achenal region, focussed on the impact of transportation distances and the type of chipping system on the carbon emissions and the CO<sub>2</sub>-footprint of local produced SRC-woodchips (see Figure 2). The main messages of the presentation has been: Carbon emissions will be significantly reduced, if transportation distances between SRC plantation and end use are minimised. Moreover, the use of optimum chipper technologies improve sustainability of the energy supply. Both requirements can be easily met in the framework conditions of our region.



Figure 2: Hans Haslreiter, expert for climate change mitigation in the Achenal region

After the lecture of Hans Haslreiter, Dr. Stefan Hinterreiter (BAT) started his presentation on SRC plantations: He explained the suitable SRC species for the Achenal region focussing on these for marginal and wet soils (see Figure 3). Furthermore, Dr. Hinterreiter presented several ways of establishing new SRC plantations, each depending on the size, shape and soil condition of the respective plot. Moreover, he informed about SRCs serving “multi-purposes”, particularly producing a local, renewable energy source and fixing/reducing nutrients.



Figure 3: Dr. Stefan Hinterreiter (BAT) explaining SRCs suitable for very wet areas



At the end of this presentation, Dr. Stefan Hinterreiter and Dr. Christian Epp explained possible ways of harvesting SRC plantation focussing on wood chip quality parameters referring to the final usage of the wood chips. If the wood chips shall be used in a small combustion, they have to have different characteristics than if they shall be used in a big combustion (like in these two ones at Grassau; each has a power of 3 MW<sub>th</sub>). Finally Dr. Epp and Dr. Hinterreiter invited all the participants to join the “real-time-production” of wood chips at the premises of the BAT in order to discuss all relevant characteristics (see Figure 4 to Figure 7) mentioned in the presentation before.



Figure 4: Real-time production of wood chips with a chipper-truck



Figure 5: Real-time production of wood chips with a low-noise, smaller chipper, excellent suitable for mid- and long-term SRC trees



Figure 6: Discussing relevant wood chip quality parameters during the real-time production of wood chips, Dr. Stefan Hinterreiter and a participant of the training



Figure 7: “Effits-chipper” with produced wood chips

Beside the “real-time production” of wood chips, several major / reputable manufacturers of biofuel-boilers used the possibility to join the training event and offered their latest innovations and heating technology. At the information stalls also representatives of the manufacturers attended and the participants could discuss best practices, advantages of the respective boilers and the influence of different wood chips qualities within the stoker and combustions (see Figure 8 to Figure 11).



Figure 8: Hargassner (boiler manufacturer) used the opportunity to present its products



Figure 9: Participants discussing at the stall of Fröling with the expert of the building service company.



Figure 10: Windhager presented the latest innovation and heating technology

Apart from the (trade) exhibition, the participants used the opportunity to get in contact and discuss with the attending experts, like – as shown in Figure 11 – with Wolfgang Wimmer (BAT).



Figure 11: Wolfgang Wimmer discussing with participants

In addition to the presentations and discussions, a guided tour through the heating plant of Grassau was the last topic on the agenda of the workshop. Josef Huber and Huber Zaiser (both BAT) explained participants the functioning principle and all components of the heating plant. By doing that, they focussed on the impacts of the quality parameters described in the presentations. Josef Huber explained for example, that the combustions easily could handle wet wood chips with a moisture content up to 50 - 60 %. The energy needed for drying the wood chips can be regained within a flue gas condensation in the chimney at the “end” of the heating plant. Huber Zaiser demonstrated the process of drying and burning wet and dry wood chips by opening the “spyhole” inside the combustion (see Figure 12). He also demonstrated that the combustions at Grassau (each has a power of 3 MW<sub>th</sub>) could be fed with a low quality wood chip fuel with many needles, branches, bark and coarse particles.



**Figure 12: Participants at the spyhole of one boiler in Grassau, seeing the impact of different wood chips qualities on and within the combustion.**

At the end of the training event, Wolfgang Wimmer, Josef Huber, Hubert Zaiser and Dr. Stefan Hinterreiter handed out questionnaires in order to get a feedback of the training concept. Unfortunately – mainly because of the “open character” of this training event – no completed questionnaire returned.

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# Achentaler Bioenergietag




**29. Oktober 2016 von 10 -16 Uhr  
am Biomassehof Achental**

**10-jähriges Gründungsjubiläum  
mit Tag der offenen Tür**

- ▶ Fachausstellung zu den Themen Elektromobilität, Solartechnik, Fotovoltaik und Heizungsanlagen
- ▶ Zahlreiche Vorträge zu Projekten des Achentals
- ▶ Führungen durch den neuen Holzvergaser und das Heizwerk Grassau
- ▶ Technische Vorführungen
- ▶ Rahmenprogramm

**Jubiläumsangebot**  
**FIRESTIX Premium Pellets**  
**5,- € Rabatt / Tonne**  
 Bei Bestellung am 29.10. und Lieferung im November 2016.





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Figure 18: Announcement of the open house day combined with the training event at Grassau

### 3 Results and Summary

The second training event of SRCplus partner BAT in Grassau was very successful. The amount of participants exceeded the expectations of the initiators by far: 100 individuals signed the participation list. But many more people attended which can be seen in Figure 11. This certain reluctance of participants to fill their personal data into the participation lists could also be seen in the other work packages and reports respectively. This hesitation can be explained by a general fear of the population that their personal data will be used for commercial purposes and the privacy could be violated. For this reason a very careful information is required why the data is collected and for what reason it will be used. Within the open and diversified atmosphere of such an open house day, it is very difficult for the organisers to provide this detailed information.

For this reason, the data collection would improve significantly in more closed and concentrated events such as workshops in closed rooms. Yet, it must be faced that in those formats the total amount of participants will be much smaller. The total number of attending persons on BAT open day shows the great impact of the training event and also verifies the chosen concept being the right one.

The attending participants have been highly interested in the latest innovations of the heating technology, the impact of different chippers and chipping settings on the woodchip qualities and its effect on the combustion and the components of the heating plant. They also used the opportunity to participate of the huge knowledge/experience of Wolfgang Wimmer, Dr. Christian Epp, Josef Huber, Hubert Zaiser and Dr. Stefan Hinterreiter.