Newsletter: January/February 2017

SRC plantations for local supply chains and heat use

Dear SRCplus reader:

The SRCplus project terminates officially on 28th February 2017. It fills us up with joy that along the past three years, you, our reader, has been interested in supporting, learning, communicating, evaluating, or simply being a critic observant of the SRC (short rotation coppice) development. Thank you very much for your interest and support.

Along these past years, SRCplus has been supporting the development of Short Rotation Coppice in the target regions. The biggest challenge has been to persuade stakeholders across Europe to understand that SRC plantations have many environmental benefits for the local supply chains and heat use. It is of a great success having accomplished the development of local supply chains of SRC by implementing various capacity building measures and regional mobilisation actions for local and national key actors in local supply chains.

Nowadays, many sustainable practices have been taking place in different target regions by joining synergies with other agricultural uses and ecosystem services, being positive for the regions and the European energy future.

As part of our final Newsletter issue, we would like to invite you to look at the presentations given in our final workshop **"The Mobilisation of agricultural solid biomass for local energy"**, held on 15th February 2017, in Brussels, Belgium. For more information visit: www.srcplus.eu/en/events.

We also ask you to be aware and visit our website, since in springtime our publishable report will be available for download.

Finally, we would like to thank everyone who got involved with SRCplus along these three years. Thank you for your support and contributions to the SRCplus project.

We hope you enjoy our last Issue.

Wishing you all the best,

The SRCplus team

SRCplus Final Workshop

The projects SRCplus and SUCELLOG agreed on organising a common final workshop event, the final workshop was held in Brussels Belgium on 15th February 2017, titled: “The mobilization of agricultural solid biomass for local energy”. The objective for the final workshop was to disseminate the projects by presenting results. SRCplus aimed to address the issues of sustainable SRC production on a European level.

The first session of the workshop consisted on providing a general overview of both projects. Ms Silvia Vivarelli, project officer of the Executive Agency for Small and Medium-sized Enterprises (EASME), talked about the promotion of solid biomass for energy in the IEE Programme. As Key Note Speaker, Ms Dominique Dejonckheere presented the perspective from the COPA-COGECA on agriculture and solid biomass in Europe, followed by the project presentations from Mr Rutz (SRCplus) and Ms López (SUCELLOG).

Figure 1: Ms Silvia Vivarelli, EASME

The second and third sessions focused on presenting the results from both projects. Each session was accompanied with and interesting discussion session, mainly by the outstanding actions that each region faced along the projects lifetime.

The workshop ended with an interesting panel discussion that highlighted the results and the current situation on the use of agricultural biomass for energy use in Europe. The experts shared their impressions providing feedback to the main issues mentioned along the workshop.

In general, the workshop provided good-quality information to the participants, and both projects were satisfied with the discussions achieved.

Development of SRC in Europe

Short rotation coppice (SRC) for the production of biomass for heat and/or electricity is considered as an important means to contribute to the European targets on renewable energies. It has been identified as an energy efficient carbon conversion technology to reduce greenhouses gas emissions. Additionally, SRC cultivation in larger scale could help to meet social and economic targets of other EU policies (e.g. EU Rural Development, CAP reform). The combination of technological and political drivers has stimulated the interest in growing and processing of SRC and other biomass crops as a source of renewable energy.

Different incentives for growing SRC have been introduced in several European countries, with most of the SRC dedicated for energy plantations initially planted in Northern Europe (mainly in Sweden, Denmark, Poland, Germany, UK, but also in other countries). Despite the establishment of some thousand hectares of SRC plantations in these countries, the planted areas are currently far less compared to the projections made in EU-level in general and in several of these countries in particular that were suggesting a broad and rapid increase of SRC.

The reasons for this low adaptability have been related to different factors in the different countries, but can be summarized as follows:

SRC is a new crop and therefore farmers are in the beginning hesitant and unaware on how to grow SRC successfully; local supply chains need to exist for a satisfactory profit, including several farmers in the area and end-users such as biomass boilers that would receive the wood chips; as a perennial crop SRC can only give revenue some years after planting which implies a

long-term investment and higher risk for the farmer; national legislation issues on where and how SRC can be cultivated need to be clarified for the farmers.

SRCplus has contributed and gave light to all the above-mentioned impeding reasons. The project produced good practice handbooks for growing SRC sustainably, that helped to establish local supply chains in the SRCplus countries, that in the end resulted in the initiation of several SRC plantations in the SRCplus countries. The project introduced legislation issues that will further help the implementation of SRC in several other European countries, and reached a great number of farmers and authorities that will potentially grow and promote, respectively, the crop, informing them about the opportunities but also allowing them expressing their reservations and the related problems at their local context.

The project has additionally highlighted the consequent environmental advantages when growing SRC in agricultural landscapes such as increased biodiversity, better water quality with lower nitrates in the groundwater, and better soil quality with increased carbon and decreased heavy metals (e.g. cadmium) in the topsoil. In general, the examples of growing SRC in the different countries indicated that SRC is a viable option for European farmers if:

(i) local supply chains are established and built on trust between the different actors, i.e. farmers and/or farmer co-operatives, entrepreneurs developing and managing equipment and energy end-users (larger such as heat and/or energy plants but also smaller such as municipal buildings);
(ii) if good management practices to grow the crop are kept in mind; and
(iii) if the SRC plantations are multifunctional achieving besides the biomass production also other environmental benefits, e.g. acting as buffer zones reducing nitrates in the groundwater, as filters cleaning wastewater and as a means to reduce heavy metal from the topsoil.

The different SRC plantations in the different SRCplus countries and the lessons learned can act as paradigms for broader implementation in other European countries in the near future increasing the total areas as projected by many European stakeholders, since SRCplus has underlined a broad list to consider under varying conditions in the European context.

Study Tour in the Zlín Region

In October 2016 the Energy Agency of the Zlín Region (EAZK) in the Czech Republic hosted the 5th SRCplus project meeting and organised the study tour.

Figure 2: SRCplus consortium in the Uherský Brod – Bánov region, CZ.

Within the study tour, the consortium visited the area of Uherský Brod – Bánov which was assessed as a potential area for growing SRC at the beginning of the project. The area is situated in a slightly warm climate region, slightly muggy. It has an annual precipitation of 594 mm, and in the growing season it is about 366 mm. The average annual temperature is 9.1°C. Its predominant soils are medium creditworthiness, clay and till, in the vicinity of watercourses are alluvial soils, and there are approximately 22 000 inhabitants in the area. This is the first time the consortium visited the region to witness the SRC development of the area. The results were more than satisfactory.

In addition to the field trip, the consortium visited Brumov-Bylnice, and Slavičín - Biomass central heating systems with cogeneration. In both visits, SRCplus met with the experts of both biomass centres and had the opportunity to learn more about the drivers of the business in the region, and its current developments. The study tour showed a complete working value chain.

EIHP at the 5th Central European Biomass Conference

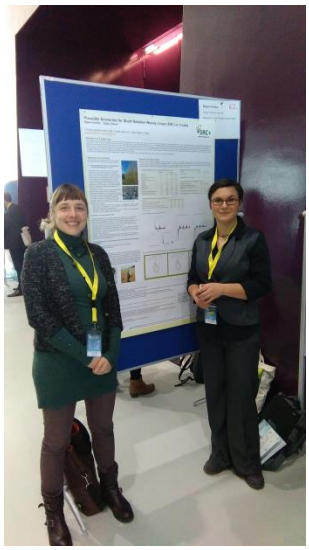

Figure 3: SRCplus project presentation at the CEBC17

At the 5th Central European Biomass Conference in Graz, Austria, the Croatian SRCplus project team presented a poster which showed estimated costs for SRC development in Croatia, and positions on SRC plantations were shown in comparison to other options available to an average Croatian farmer.

The poster is a result of various SRCplus project activities in Croatia and it aims to give a realistic image under which conditions SRC can be an attractive and economically viable option for farmers. The results showed that estimated costs for the establishment of SRC plantations vary significantly, mostly due to variations in the highest cost item – the cost for land preparation before planting. The attractiveness of SRC plantations to an average Croatian farmer was presented in three steps. The first step was an estimation of costs for willow plantation establishment based on two scenarios that defer in application of agro-technical measures (additional nutrition during the first two-year rotation cycles, pest control etc.), and resulting in biomass yields. The second step was profiling an average Croatian farmer, and the third step included analysis of options for utilisation of land for an average farmer profile. Four options of land utilisation were analysed: continuation with crop production, leasing the land, selling the land, and growing SRC. The conclusions were the following:

- Planting SRC plantations at agricultural land is more an income attractive option for a farmer in comparison with land lease and land sales;
- Planting SRC plantation is an attractive option in conventional crops farming.
- In average, SRC plantations cannot compete with conventional crop farming but is an option worth considering against land lease and land sale.
- Reported biomass yields from intensive SRC plantations justify additional investments
- A combination of low input agriculture with animal farming would be an option worth investigating.

News from Achental

In October 2016, two successful training events took place in the region of Achental: Both trainings were dedicated to users and traders of wood chips. The first one combined the inauguration of the new heating plant in Rimsting, which can easily use SRC wood chips as biofuel:

Figure 4: Impressions from the training event in Rimsting

The second training event took place at the premises of the Biomass Trading Centre in Grassau.

Figure 5: Impressions of the second WP5-training event in Grassau

Both training events were successful. The number of participants exceeded the expectations of the initiators by far: over 150 participants signed the participation list, but many more people attended; which can be seen in Figure 4.

Because of the training events and the efforts performed by the Biomass Trading Centre, the municipality of Bernau signed on the 10th Jan 2017 a letter of commitment with plans to establish in total 10°ha new SRC plantations in the region. More letters shall be signed in the next weeks and a plan for the future for implementing more/new SRC plantations shall be discussed and implemented within the main stakeholders in the region.

Great success for the SRCplus project

According to a selection process by Ricardo Energy & Environment – commissioned by the European Commission – the SRCplus project and Dr. Stefan Hinterreiter from BAT have been chosen among 47 bioenergy projects to present their achievements within the event "Bioenergy in the EU: Converting policies into impacts" at Brussels. The conference was a final event to present the results of the tender *"Review of bioenergy projects implemented under IEE II"*. The scope of the tender was to assess the impact and achievements of the already mentioned 47 bioenergy projects supported under the European programme Intelligent Energy Europe in its second phase (IEE II, http://ec.europa.eu/energy/intelligent).

During the event the results of the impact assessment were presented. Some success stories have been identified during the impact assessment, some others were showcased, and representatives of some ongoing and finished projects presented successful experiences. Two panel discussions involving representatives from DG Agriculture and Rural Development, DG Energy, DG Environment, DG Internal Market, Industry, Entrepreneurship and SMEs and DG Research and Innovation (RTD) were organised. The European policy development on bioenergy was discussed, as well as how the outcomes of IEE II bioenergy projects could be useful to policy makers.

Successful implementation project in Czech Republic

Figure 6: SRC planation in Zlín

The SRCplus project is coming to an end and show the success in the Zlín Region. The letters of commitment are about to be signed. More than 200 farmers, public land owners and users of wood chips attended the seminars, and the Energy agency of the Zlín Region established cooperation with many of them. Outputs like the SRC handbook and flyers were distributed during the seminars and supported the capacity building events. The SRCplus

project has been promoted in many ways in the Zlín region, with radio transmissions about SRCs, and several press releases focusing on the expansion of SRCs in the region, belonging to the most successful ways of promotion with a wider impact.

Identification of suitable areas for SRC production in Vidzeme region is completed

A study about suitable areas for SRC plantations in Vidzeme region was implemented and 13 previously defined sustainability criteria for the SRC cultivation were analysed. The study presents a deep evaluation of cost effectiveness for SRC cultivation in the region.

The study revealed that in general sustainability criteria described in the SRCplus strategy are appropriate for spatial exploration on the regional and local (parish) scale of potential sites for SRC plantations. However, some of the criteria already defined were of minor significance. Additional criteria should be used in the territorial planning with specific requirements.

Based on the analysis of the sustainability criteria and on the evaluation of the economic efficiency, it concludes that the most appropriate territories for setting up SRC plantations are located in the Alsviķi and Beļava parishes.

The full report can be found here.

Seminar for public land owners in Latvia

Figure 7: Seminar in Vidzeme

The 2nd seminar for public land owners took place in Madona (Vidzeme region) on 31st of May 2016. The topics covered during the seminar included benefits of SRC practices, SRC related legislation, good practice examples and potential for SRC plantations in the region. An external expert from the Institute of Agricultural Resources and Economics has been subcontracted in order to identify suitable areas for SRC production in Vidzeme planning region. The results and the economic analysis for the SRC cultivation were presented by the experts.

First national workshop for users of woodchips in Latvia

The 1stpractical workshop for small and medium users of woodchips took place in Valmieraon on 25th of January 2017. In total 36 participants took part at the workshop, including users and producers of wood fuels, farmers, technology distributors, representatives from municipalities and others. Aspects related to the use of SRC, economic issues, quality of fuels coming from SRC, PEFC certification of SRC, as well as combustion technologies were presented and discussed during the first part of the workshop.

During the second part of the workshop the participants visited a three years old willow field and a wood chipping site. A film crew of the Vidzeme Television accompanied the site visit. The

contribution of the film crew was broadcasted on 26th January 2017 within the regional news and the broadcast can be found also found on the home page of the Transmitter company - http://vtv.retv.lv/vidzemes-zinas-zemkopibas-ministrs-darba-vizite-viesojas-rujienas-un-nauksenu-novada-saimniecibas/ (in Latvian, material about SRC starts at 10:10).

Figure 8: Wood-chipping site

Figure 9: Participants at the Vidzeme workshop

News from Silava

In Latvia, SRCplus project updates were presented during the local forest fairs "Nāc līdzi ejam mežā" "Come with me to the forest!" in Priekuli (13.05.2016.) and "Forest education event at Zilie kalni" in Ogre (20.09.2016.).

Figure 10 and 11: Presentation at the local forest fairs

The handbook was translated and has been distributed during the training seminars, sent to the local libraries, and copies are available at the Latvian University of Agriculture, Liepaja University and JS "Latvian state forests". The books are free of charge and available at the LFRI Silava library. The handbook has been distributed in cooperation with the forest owner NGO, and "Selected willow growers association".

LSFRI Silava researchers took an active role in the elaboration of local PEFC standard, where SRC or tree plantings on agriculture land is now being included. It means that in Latvia a well-managed SRC fields has the potential to produce PEFC certified wood products.

Specialists of LSFRI Silava took part in the seminar for the forest owner cooperative "L.V.Mezs" and in the annual meeting of the "Latvian Forest owner association", where a short introduction about the SRC plus project was given together with the distribution and presentation of the handbooks

Figure 12: Latvian SRCplus Handbook

By taking part in the discussions about the land reform in Latvia, researcher D.Lazdina participated in the workshop 1.11.2016. at Latvia saeima Economic, Agricultural, Environmental and Regional Policy Committee.

Researchers of LSFRI Silava took part in all SRCplus seminars and trainings in that period.

First events for public land managers and users of woodchips in Greece

Figure 13: First training for public landowners in Greece

The first SRCplus training seminar for public landowners (and managers) in Greece took place on the 23rd June 2016. The event was organised at the facilities of the Forest Research Institute in Vasilika (prefecture of Thessaloniki). The seminar included a study visit to the FRI experimental fields on fast growing species and a workshop for users of woodchips (24th June 2016). The topics presented in these events were focused on the establishment of SRC in public lands, criteria for sustainable production, species and varieties of woody species, environmental aspects, use of SRC for protection of water bodies in environmentally sensitive areas, economic issues, existing small-scale biomass heating applications and medium-large scale heat production from woodchips.

Events for farmers, public land managers and users of woodchips in Greece

Figure 14: Training seminar for public land manager in Kerkini, Grece

Three *SRCplus* events were organise in the prefecture of Serres from 29th November to 1st December 2017. The first event was organised on November 29th as a training seminar for public land managers, held in the area of the protected area of the lake Kerkini. The local authority responsible for the management of the lake supported the event. Speakers presented the benefits of the production and use of woodchips from SRC in the area as well as environmental benefits of cultivating forest species around water bodies (minimizing leaching of nutrients due to intensive agriculture).

The second and third events were a training seminar

for farmers and a workshop for woodchips users, were supported by the chamber of the prefecture. Presentations for farmers were focused on cultivation, management and harvesting of woody fast growing species, materials necessary for the establishment and management, cost analysis of SRC and specific benefits for farmers, including the framework for subsidy schemes. Management and quality of woodchips for heat production and energy conversion technologies were the main topics addressed during the workshop for biomass users.

All events and specific topics were prepared after meetings with the union of agricultural cooperatives, as well as with the public land managers and local authorities responsible for rural development and wood production (13.10).

Perspectives for SRC in Northern Greece

CRES's Biomass dept. participated in the 5th Central European Biomass Conference, that took place in Graz, Austria from 18 to 20 January 2017, with an oral presentation about the *perspectives for establishing SRC in Northern Greece* (target region of the project). The presentation addressed the potential areas for establishing SRC, taking into consideration available resources, environmental considerations, the current agricultural production, and fast growing species suitable for the area and economic issues.

Slides of the presentation are available on CEBC 2017 website, PB 4 - 'New resources, potentials and supply chain risk management (http://www.cebc.at/en/service/publications/5-mitteleuropaeische-biomassekonferenz/ps-4/)

The SRC situation in Brittany, France

Under the LIFE environment project *Wilwater*, ca. 100 hectares of willow were planted in 2005 to test different application methods: wastewater treatment, sewage sludge spraying, and protection of the catchment area for drinking water combined with energy production.

Since the experimental programme, 130 hectares of SRC have been planted and at least 20 hectares were moved to other crops. Finally, about 220 hectares have been implemented for the following actions:

- - Sewage sludge spreading: 40 ha
- - Wood energy production: 65 ha
- - Water quality protection: 40 ha
- - Wastewater tertiary treatment: 75 ha

Wood energy market in Brittany

Since 2010 wood energy has grown significantly in Brittany and has produced 1000 GWh by the end of 2014. Objectives for wood energy development in 2020 represent a considerable effort (1670 GWh). During the lifetime of the SRCplus programme, the economic framework conditions were not favourable for the SRC development. Within such context, the wood boiler development slowed down and the woodchip storage levels increased, and the SRC harvesting costs remain higher. Furthermore, the fuel produced by SRC has to compete with traditional energy wood resources, particularly forest wood, a resource that is currently cheaper than willow-wood.

Under the current energetic conditions context, SRC has not developed spontaneously to any significant degree. However, the following situations are from a big interest to the local stakeholders:

- **Water protection:**

SRC can be implemented on the banks of a watercourse, or on slopes to limit diffuse discharge of pollutants such as nitrate, pesticides or erosion. SRC is an eligible crop as buffer strip. However, subsidies from water quality policies are necessary to make this crop economically feasible.

Figure 15 How coupling buffer strips with biomass crops? Site visit during the ATBVB regional workshop

In Brittany, most of the kick-off activities for the SRCplus project focused on the water protection topic. For instance, the regional workshop of SRCplus involved organisations working closely on watershed protection; the round tables involved research institutes, regional and local authorities, and water supply agencies. The national conference was organised with assistance of the advisory organisations working on water management and water protection.

- **Energy self-sufficiency of local territories or farms:**

At a farm level, SRC production can be included in strategies for food and/or energetic independency. Some dairy farmers want to improve their feed autonomy, replacing corn and soybean with grass. Drying grass in farms is part of the task. Farmers are interested in developing an SRC production to feed the boilers.

Figure 16: Site visit, Saint Gilles SRC plantation

The dairy farmer's crisis led to the development of new strategies, including energy self-sufficiency. When the milk production stopped, some farmers started looking for an energy self-sufficiency solution, mainly for chicken or pig farming, where meadows can be planted with SRC to heat the barns.

Some territories with strong and concrete renewable energy strategies (as 100% renewable energy territories) are interested in SRC plantation as a complementary source compared to other wood sources. In Brittany, two territories are interested in such plantations:

Le Mené already planted 30 hectares of SRC, and the local authority would be favourable to double SRC surfaces in order to contribute to the energetic independence of the territory.

Lorient Agglomeration and the City of Lorient are committed to develop wood energy, where some SRC plantations would be part of the local wood supplies.

At national level, **Lille Metropole** is interested in producing biomass energy by planting SRC on brownfield areas.

- **Further development to diversify opportunities**

Figure 17: SRC as erosion barrier
Source: AREAS

New opportunities are being tested to diversify the uses of SRC. For instance, the region of Normandy is facing some high erosion problem where SRC stems are being used to tackle the erosion problems. Besides, a NEW Interregional project, RE-DIRECT, coordinated by the University of Kassel will test biochar and active carbon production (as amendment, feeding additive, water filter) from residual biomass of SRC woody plantations.

SRC development in Macedonia

The SRC plus project implementation in Macedonia had a significant impact on the awareness building process on SRC plantations and on the use of woodchips for heating. For instance, the achievements of trainings, workshops, experiences, best practice examples, SRC know-how, etc., were presented to the relevant involved stakeholders. As a result, the process of establishing new SRC plantations further developed. The handbook, which was created during the project implementation, has been an important tool for farmers supporting their efforts within the cultivation process for SRC. The project partner in Macedonia stablished small demonstrative SRC plantations, which will further promote SRC in the region.

Furthermore, positive results among the public institutions were achieved. A school, a hospital and a municipal building replaced oil boilers for woodchips and pellets boilers. This measure is part of the results of the new national energy efficiency measure supporting the use of woodchips boilers by decreasing the tax contributions on biomass. It is expected that the replacement of oil boilers will be soon implemented.

Figure 18: National Workshop in Macedonia

At the beginning of December 2016, a national workshop took place in order to share the experiences and outcomes of the project to relevant stakeholders. Farmers, companies, agro associations, authorities from several regions, and others discussed the opportunities and potentials for a further cooperation. This cooperation is leading to strengthen the supply chains.

SRCplus consortium

WIP Renewable Energies, Germany

Biomassehof Achental, Germany

Secondary School Car Samoil - Resen, Macedonia

Swedish University of Agricultural Sciences, Sweden

Latvian State Forest Research Institute Silava, Latvia

Association of Local Initiatives in the field of Energy and Environment

EIHP, Croatia

EKODOMA, Latvia

CRES, Greece

Energy Agency of the Zlin region, Czech Republic

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