



Lessons Learnt

Sustainable regional supply chains for woody bioenergy (BioRES)

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Lead Partner: GIZ

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1. Introduction

BioRES introduces the innovative concept of Biomass Logistic and Trade Centres (BLTCs) in Serbia, Croatia and Bulgaria – areas with very high woody mass potential. BLTC stands for Biomass Logistic and Trade Centres, which are regional hubs linking wood supply from forest owners, saw mills and other wood producers with demand from bulk and small buyers. BLTCs organize provision, processing and dispatching of pellets, woodchips and other woody bioenergy products. Heat contracting and maintenance often complement these services.

The focus lies on domestic market uptake with short transport distances. BLTCs assure quality and negotiate delivery contracts. Thus, a reliable service will develop along regional value chains. Training and developing capacities of potential actors along the supply chain, on how to implement and manage regional supply chains for quality woody bioenergy products from sustainable forestry are also of crucial importance.

The BioRES project came to end in June 2017 and can report about a successful work. All indicators have been achieved, all expected impacts reached. All material produced by the project can be found on the BioRES website (www.bioresproject.eu).

After 2.5 years of work the project supported and trained future BLTC operators in three countries: Bulgaria, Croatia and Serbia. Site-specific feasibility studies and business-plans were made. A web-platform for the BLTC's was prepared and model agreements for sales and supply have been offered to the future operators. Thanks to the strong effort of the partners within the implementing countries and to the support and expertise of the consortium, nine BLTC operators successfully completed the entire process of the project: Three in Bulgaria, four in Croatia and two in Serbia.

Table 1: List of implemented BLTC's

Country	Name of BLTC	Type of BLTC	Start of operation
BG	BLTC Ahira	Physical	January 2017
BG	BLTC Trigrad	Physical	June 2017
BG	BLTC Chepelare	Shop based / Physical	January 2017 / Start of construction June 2017, completion expected by August 2017
CRO	BLTC Forest (Jastrebarsko)	Physical	October 2016 with heat contracting
CRO	BLTC Pokupsko	Physical / partly	November 2015 with heat sale
CRO	BLTC Sostaric	Physical	Expended in 2016
CRO	BLTC Kapela (Josipdol)	Web-based	May 2017
SB	BLTC Gorstak (Bajina Basta)	Physical	May 2017
SB	BLTC Nanix Wood (Nova Varos)	Physical	June 2017

This report highlights some lessons we have learnt while supporting BLTC owners and operators. We hope they are useful for individuals and groups that wish to work on similar challenges.

2. Lessons

2.1. Feasibility studies

A feasibility study is a prerequisite for a broader analysis of the economic viability of a business idea. It included a template and calculation tool which help the user to assess the market from supply and demand side and to calculate the investment and operational costs and how they could be distributed in the time of operation. Only if the preliminary analysis indicates a good chance for a durable and sound business case, further analyses and investment should be considered. It is thus to be expected that not all feasibility studies will ultimately lead to a business plan and, subsequently, to the establishment of a BLTC. This was the main reason for selecting more sites for potential construction of a BLTC than ultimately promised by BioRES (the project strived to establish 6-8 BLTCs during its project duration). As one can often learn more about things that don't work, let's have a quick look at the feasibility studies that did not lead to the establishment of a BLTC:

Croatia

- Location Slunj: The investor decided to invest in a pellet production factory instead of a BLTC, due to better economic performance (higher profit of pellets compared with wood chips/firewood).
- Location Sveti Križ Začretje faced difficulties in securing sufficient biomass and thus withdrew. In Croatia approximately 75% of forests are managed by the state owned company, which has its own rules (tendering process) for awarding contracts for biomass supply.
- Location Velika Gorica and Zrinjevac the feasibility studies showed inadequate market development (lack of customers/consumers on the local level) and difficulties in obtaining sufficient financing (including subsidies, without which a large part of the investment is not economically feasible, due in part to low fossil fuel prices during last years).

Bulgaria

- City of Smolyan (No 11): The Company Uruchev Ltd. wanted to implement a BLTC on their own land but the feasibility study showed that the implementation of a physical infrastructure would be costly and they failed to get a bank loan during project implementation. Nevertheless, the company started to use the webbased platform to sell their bioenergy production.
- Location Borino, Villages of Stoykite and Shiroka Laka, the forest cooperative Borika wanted a feasibility study to propose a BLTC implementation to their members. The results were presented to the cooperative, but unfortunately, they failed to gather enough investment and to persuade all members (above 900 co-operators) to support the action. However, at the end of the project, the forest cooperative agreed to participate in the supply chain of two other BLTCs that were implemented.

Serbia

- Location Pribojc and Zrenjanin: The main difficulties were (i) the inability to mobilize capital for the investment, (ii) the inability to procure secure sale channels, and (iii) changing focus to other ways of company business development.

The template for the feasibility studies is generic and can be used by anyone who considers investing in a biomass logistic and trade center. The template is very detailed and takes into account many different aspects of the market, which makes it a very useful tool for analyzing the feasibility of investment and implementation of BLTC in particular regions. After project completion the process of conducting feasibility studies is described and can be found here: [www.birosproject.eu/index.php/your-way-to-a-bltc](http://www.bioresproject.eu/index.php/your-way-to-a-bltc)

The most demanding part of the feasibility study is certainly to assess the consumer base and the likely demand in the short and medium term for the products of the BLTC. As this is crucial, BioRES promoted close cooperation with the public sector (often a major consumer of heat or other BLTC products) and high engagement with potential consumers (see WP7 "Consumer information and public awareness"). The demand side determines all decisions on the supply side, for instance: contractual arrangements with suppliers or personnel to be hired by the BLTC.

2.2. Quality assurance

BioRES provided information and support on standardization, certification and quality assurance. To what extent did BLTC operator act upon the guidance on certification and standards? While BLTC Gorstak has indeed been certified during project duration and a second, Ahira, made first steps in complying with standards, the overall feedback by BLTC operators was rather hesitant. They argued that the current immature market doesn't allow for price premiums due to compliance with standards. In addition, compliance throughout the value chain is very difficult to ensure. The price of certification is considered prohibitive, with no realistic added value on sales in the current local markets. For these reasons, most BLTC operators decided considering certification and quality assurance at a later stage.

BLTC operators were interested to hear about the existing quality and sustainability standards and certification schemes. However, the lessons we can learn from conversations with these operators is that currently it is not considered economically advantageous to abide by these standards, let alone to pay for certification. It is considered that the maturity of the market determines the demand by BLTC operators for certification schemes. The more mature a market becomes and the greater it is interwoven with the larger European market, the more important certification schemes and norms become, due to competition with other actors and increased quality and sustainability expectations of the consumers. It would, however, be easier and more effective if future certifications would already be planned at an early stage, giving the BLTC operators a first-mover advantage and allowing them to get a head-start over competitors. As BioRES was not promoting the export of biomass, it is necessary that momentum is gained in the internal markets before the benefits of standards and certification are fully appreciated and easily justified.

2.3. Capacity development

BioRES offered classroom training, on-the-job training and two study tours. After the closure of the project it can be concluded that the mix of capacity development activities used by BioRES was very much appreciated by the target group of the project. The exposure or study tours conducted at the very beginning of the project were very important for interested investors to see a functioning BLTC and to get in touch with BLTC operators of Austria and Germany with hands-on practical experience.

This first study tour was mainly a promotion and stakeholder engagement, where future investors and public officers saw the BLTC live and get firsthand information of different business models.

In addition to the first encounter, BioRES organized a second study-tour in the second half of project implementation. This tour was a crucial support to investors of Bulgaria, Croatia and Serbia to indeed establish a BLTC. In the 10-15 months after the first study tour, the investors fully immersed in the various details of setting up a BLTC and could even better use the insights of the Austrian and Slovenian experts.

Study tours however need to be additional elements to on the job training and workshops at country level. As indicated above, the BioRES countries required different inputs. While in Bulgaria more general information about woody bioenergy and a BLTC was required, actors in Croatia, and to a lesser extent also in Serbia, asked for very specific trainings to complement their already rich knowledge about BLTCs. Training concept was thus set differently: BioRES performed specific on-site trainings in Serbia. In Croatia we focused on public officers and forest owners, which need to gather more information in order to decide if they want to be part of BLTC concepts.

Future projects of similar nature should conduct a robust training needs assessment but should also apply a certain flexibility in the design and conduct of capacity development activities. A general recommendation across the various types of trainings is that peer-to-peer engagement is much more appreciated than lectures by experts and consultants. In addition, on-site trainings (eg in a forest or at a BLTC) is valued higher than classroom studies. Thanks to BioRES future projects have an attractive package of training materials, online application, videos and 3D presentations at their disposal that they can use to promote the concept of BLTCs.

2.4. Consumer information

Within BioRES, at least three consumer information days were organized in Serbia, Bulgaria and Croatia back to back with bigger events like fairs, municipal festivities or conferences to reach out to a possibly wide audience by offering talks, information stands, consulting and/or excursions. An overall strategy for the events was developed in a workshop in April 2016 held in Zagreb (see task 7.1). The concepts developed included ideas, to which events the info days could be linked, planning of organization, potential partners, marketing strategies, desired materials and content of the programs. Execution of the info days was facilitated and accelerated considerably by the input and exchange in the group works offered in the workshop. During the events, materials developed within the project were distributed: Brochures on sustainability and quality criteria (5.3) and on heating with woody biomass (7.2). Furthermore an information video on BLTCs (8.3) was integrated into the programs.

For the events in all countries direct contact and exchange between public, BioRES team and local stakeholders was established to promote regional BLTC concepts, benefits of high quality biomass fuels and sustainable regional supply chains. In Bulgaria at all five information days, which were organized affiliated to local events with a high visibility (festivals/ fairs), mainly positive feedback concerning the idea of regional supply chains and BLTCs could be retained and common knowledge gaps could successfully be addressed. The general opinion was that the given information and brochures were useful and the animated film was interesting. The three events organized in Croatia, connected to consumer and trade fairs, could reach a high regional impact e.g. by visits of high ranked officials as well as organized excursions – also here the feedback given was predominantly favorable. In Serbia the three information days were organized back to back with other events, two with specialized audiences and one consumer fair, where intensive forward-looking interaction especially regarding the mobile app and the cooperation data base could be achieved. Finally, it can be concluded that the

information days were a success in all implementing countries of the BioRES project, because awareness of the broad public was raised, potential cooperation between local stakeholders was initiated and regional challenges for future work in public relations could be identified.

2.5. General lessons

In a fast-changing world we all become life-long learners and can never rest on past achievements. Projects that only foresee a one way transfer of knowledge – from the perceived expert to the novice – may miss important learning opportunities. BioRES had this set-up where the “expert” is not expected to reflect on how to improve his own situation. As there is always room for improvement and always a need to adapt the project concept to new circumstances, the potential of the project might not be fully exploited. To put this idea into practice (e.g. by peer-to-peer learning) would benefit the interactive learning aspect and might have a considerable impact on the project results.

The consortium always has to be mindful that project objectives and deliverables match specific demands in the implementing countries prior to project design. Too often, general processes and measures are suggested in a “one-size-fits all”-manner that, once they hit reality, either face some resistance from local stakeholders or, at least, do not have the expected impact as they were not designed to solve the specific local problems. BioRES partially modified this risk but showing a certain flexibility in designing and conducting training activities.

The major driving force for achieving success is passionate local leaders who want to change the current situation. For these pioneers, economic considerations sometimes play not their first priority for taking decisions. Or, at least, these pioneers attach equal value to non-economic factors, such as wider social and environmental benefits when leading change at local level. Identifying such individuals and transforming them into project ambassadors can go a long way in reaching more individuals and thereby multiplying the project’s effect. A striking example for this is the mayor of the Croatian municipality of Pokupsko who dedicated a huge amount of time and energy to set up the local BLTC.

A key actor at municipal level is the mayor who acts as a major driving force at municipal level. But even in the case of a very engaged mayor, extending the stakeholder base to more individuals and groups who may exert some influence on political level could be benefitting for the progress of the project. Local governments tend to be approached by many organizations and groups with project ideas that may solve a specific problem but do not consider development processes at local level in a holistic manner. When formulating project ideas it is thus paramount to (i) ensure that the project indeed solves a real problem or challenge and (ii) to explain how this specific solution is connected to an overall development strategy or vision of a municipality.