

Supporting more efficient use of bioenergy at local level: What can we learn?

Best Practices and lessons learnt of H2020 Projects related to Bioenergy

1. Why learning from bioenergy projects at the local level?

The most important renewable fuel remains bioenergy, with wood and other solid biofuel representing approximately half of renewable energy primary production in the EU. In 2012, European renewable energy production (177 Mtoe) overtook the production of energy from each of indigenous coal (167 Mtoe), natural gas (133 Mtoe) and oil (77 Mtoe).

Notwithstanding this positive market development, the potential for biomass is much larger. This holds in particular for EU candidate countries in Southeast Europe that rely heavily on fossil fuels while underusing their biomass potential. Changing this pattern is both difficult and urgent. Pioneers are needed that take the first steps needed for switching energy generation from fossil fuels to renewables. They are not alone. They can count on international development agencies like GIZ and can learn from the experience from other countries. Connecting individuals, organizations and entire municipalities from countries that have overcome similar challenges than those currently present in Southeast Europe, is the core idea of coordination and support actions promoted by the European Union's Horizon 2020 support structure.

BioRES and BioVill are two of these projects. Both promote sustainable use of bioenergy, both connect pioneers in SEE with practitioners in other countries and both operate primarily at local level. Most likely, other projects with similar focus will emerge in future. To avoid making similar mistakes and to repeat what worked fine, BioRES and BioVill partners took some time to look back at the respective projects and reflected what can be extracted as lessons learnt. This short paper is the result of a one day meeting, held on 21 February with representatives of the two projects, BioRES and BioVill.

1.1. Bioenergy villages increasing the market uptake of bioenergy (BioVill)

The overall objective of the BioVill project is to support the development of regional bioenergy concepts and the establishment of "Bioenergy Villages" in Croatia, Macedonia, Romania, Serbia and Slovenia by transferring and adapting experiences gained in countries like Germany and Austria, where bioenergy villages already exists to the target countries with less examples in this sector. The project fosters the development of the bioenergy sector in selected target countries by strengthening the role of locally produced biomass as a main contributor for energy supply on local level, considering opportunities of market uptake or expansion for local farmers, wood producers or SMEs.



Core activities of the BioVill project include national and local framework analyses, technological and economic assessments of local bioenergy value chains, development of the institutional set-up and energy management concepts for the potential Bioenergy villages as well as capacity building on financing schemes and business models. As a key factor of success the BioVill project uses a multi stakeholder approach fostering the involvement and active participation of the citizens and all relevant stakeholders in the planning and implementation process.

The major outcome of BioVill is the initiation of at least five bioenergy villages in the target countries up to the investment stage for physical infrastructure. This will contribute to the expansion and sustainability of the bioenergy markets in the target countries and in the European Union.

BioVill is a three years project supported by the European Union's Horizon 2020 programme. The project started in March 2016 in collaboration with 9 partners from the target countries, as well as from Germany and Austria.

1.2. Sustainable regional supply chains for woody bioenergy (BioRES)

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. These services are often complemented by heat contracting and maintenance.

The focus lies on domestic market uptake with short transport distances. BLTCs assure quality and negotiate delivery contracts. Thus, a reliable service along regional value chains will develop. 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.

BioRES is a project supported by the European Union's Horizon2020 programme that started in collaboration with 9 partners in January 2015 and will end in June 2017

2. What have we learnt?

2.1. Project concept

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. BioVill and BioRES both had and still have this questionable 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 projects 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.

It was also highlighted to ensure 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. The time gap between submitting a H2020 proposal and the actual start of the project (some nine months later) represents an additional complication. Overall framework conditions may have altered, necessary activities and outputs may be seen in a different way, actors originally foreseen to play a decisive role may have changed etc

Regarding the short project period it is recommendable to keep the thorough selection process of target municipalities lean and only apply limited number of selection criteria. This has been proven to be an adequate measure for preselection.

2.2. Transition at local level

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 is 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 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.

How to initiate transition at local level?

- Pioneers and local leaders are needed
- Initiate citizen cooperation developed and steered by local stakeholders to create empowerment.
 - ➔ Higher identification and success rate
 - ➔ Give an idea and options on how and why to do it
- Link the project idea to a popular topic to gain support of the citizens and the mayor (eg. combination of the installation of a local heating grid with a general renovation of local infrastructure saves/shares costs and leads to a higher efficiency of the investment)
- Let local associations indicate which municipalities have the potential and willingness to be part of the project
 - ➔ find a mix of potential, experienced and leading actors
- Possible approach: we help finding a solution to a specific local problem. (find a way to identify those problems already before the start of the project or plan enough time and resources to do so during project implementation)
- Build flexible definitions of project goals embedded into the local strategies
- Take into account and pay respect to local framework conditions and don't overrule them with a systems of a foreign country. The local history and past have to be taken into account.
 - ➔ Look for potential multipliers to be involved in the advisory board (involve science institutes, gain trust, make noise, neutral analysis)
 - ➔ Create awareness and gain trust by involving scientific institutions accompanying the process and publishing neutral analyses and reports
- Find the caretakers of the project (politicians, bankers, technical engineers, agriculturist, public affairs)
- Develop a stakeholder map at the beginning of the project with regular updates throughout project implementation: including all stakeholders and interest groups (indirect/direct influences)

2.3. Legal framework

The success of the project depends very much on the personal and specific agenda of political decision makers. Further factors that may have a negative influence on the project can be very unfavorable submission dates, set by local and national authorities. Therefore changes in the governmental structure such as change of mayor, change of law etc. can have very high impact on the proceeding of the project. These legal uncertainties can be counteracted by carrying out some protective measures e.g. citizens and public stakeholders should always be informed and their expectations analyzed.

How to overcome legal uncertainties?

- Extensive communication/information/raising awareness in governmental institutions for the project, to achieve consensus and long lasting commitment

- Involve strong influential and stable partners/multipliers (think horizontally and vertically), e.g. national forest institutions etc. but also newcomers, e.g. local associations to reach stability among the project partners also under changing framework conditions
- Bring good practices to implementing countries but also adapt good practices to the local conditions (faster start of implementation)
- Think beyond the project objectives and aspire coherence with other social, environmental and economic goals of the country. Putting a project on several pillar can considerably reduce lack of acceptance by local actors and other barriers
- Build in flexibility in project design to be able to react to unforeseen changes, such as a decrease in oil prices that reduces the pressure to consider alternative fuels

2.4. Investment and availability of financial resources

The heating market in south-eastern European countries is very scattered. Thus, a very strong and stable framework is needed for investment, which do not yet exist. And the lack of trust on the part of local credit institutions presents another barrier to reaching a faster, broader development of bioenergy. Municipalities play a major role as investors and owners of infrastructure, equipment and operating companies, since they have access to investment budgets and government guaranties and are therefore reliable partners for the banks. On the other hand they are also handicapped in bioenergy investments due to their obligation to choose the cheapest and most economical investment option. But renewable energies currently appear less competitive and unattractive due to price differences of up to 40% compared to the low oil and gas prices. Thus governmental subsidies are needed. And future perspectives and developments have to be taken into consideration when decisions about long term bioenergy investments are made. Last but not least, also local stakeholders, e.g. citizen associations have to find ways to gain trust from banks, otherwise necessary investments will be very limited, since local communities don't have enough resources to invest in the necessary technologies.

I. How to make bioenergy more attractive for investors?

- Make better use of energy/ heat Contracting
 - Bears the risk
 - fossil fuels investors switch to biomass
 - work on local levels
 - more credibility
- Investors take care and are aware of the wood quality and the different types of boilers therefore bioenergy could become more attractive.
- Shorter periods of investment < 15 years, due to critical political changes in some countries
- Organise trainings and information events for investors to establish and strengthen the relationship and over the period of time
- A reduction of the current price differences between fossil fuels and RES (also by subsidies) will stimulate investments in the bioenergy sector Expand product pallet, eg combine heat and power

See a service instead of a product. Eg. clean air, higher living quality, healthier people etc.)

- Bioenergy is more expensive but with bioenergy the money stays in the region, use added value and job creation in the region as main arguments
- Involvement of neutral and competent parties for the development of business plans could raise the credibility of projects (e.g. independent assessment of bioenergy and economic potential)
- Focus on concrete actions (e.g. BLTC) rather than global goods like greenhousegas emission reduction
- Combine the investments for bioenergy installations with other planned investments, e.g. for infrastructure development (Water, sewage, electricity, internet, roads, bike lanes, energy efficiency measures etc.) and thus reduce the costs (cost sharing), construction time and administrative burdens (applications, authorisations, permits etc.) as well as indirectly use the subsidies for the infrastructure development
- Identify relevant support programmes to increase the economic efficiency of the bioenergy investment

II. Who should invest and how?

- Municipalities and public sector?
- Better involve citizens in energy efficiency and RES projects (eg via cooperation models with a small rate of interest, 2%)
- Due to low income level in southeastern European countries also alternative investment methods could be applied, i.e. people could contribute in-kind, e.g. with own wood resources or with operational and installation work e.g. to renovate the infrastructure, instead of investing money
- Try to involve local companies or private investors in bioenergy investments, i.e. wood processing companies like sawmills, etc., since they have an interest in the development of the region, access to resources and relevant knowledge
- Distinguish between (a) Investment on grid (b) investment on heating center
- Look for other financing options, e.g. cooperation projects of different donors, including pilot measure and “

→ Smart combination of subsidies, investment and citizen contributions is needed!

2.5. Upscaling

To achieve an upscaling effect, long term investments into education, distribution and marketing have to be pursued. This way EU projects can help to open up local mindsets and educate stakeholders. New approaches are required to deal with trust issues where no cooperatives have been established yet.

This is why a dissemination and exploitation strategy is a paramount part of every EU funded project. The project should not seek to find small, individual solutions, but rather establish ways on how to

support entire sectors. For this, pilots may be needed to test tools and processes. But there needs to be a valid and convincing strategy on how other actors may benefit from the solutions presented by one project. A crucial issue will always be how these actors can possibly achieve similar results as the pilot cases without receiving the same amount of support.

This implies including partners in the consortium that work on upscaling and multiplication during, and also after the project. Upscaling thus can't be an afterthought of the project. With BioRES, for instance, there is little time and resources left to work on upscaling. The work in the pilot cases consumed most of the project time and money and will only be finalized at the end of the project. In the BioVill project several activities are foreseen to disseminate the project results and thus to upscale its impacts, e.g. involvement of follower villages in the implementation measures of the target villages, dissemination workshops among the partner countries and with representatives from neighboring countries.

How to achieve effective upscaling of project ideas and pilot schemes?

- Include specific upscaling measures in the project proposal/approach, , plan necessary resources and ensure/monitor their implementation from the beginning of the project
 - e.g. BioVill follower villages
- Involve relevant professional organisations, e.g. forest owners or farmers association, advisory services etc. in the project, e.g. in an advisory board. They will help to disseminate the results of the project and will support their members to implement the project approach.
- Initiate cooperation with scientific institutions, e.g. universities, research centres / labs of ministries, etc., and a scientific accompanying research. This will increase trust in the applied methodologies and approaches of the project and support the dissemination of the project results and experiences. Furthermore a scientific analyses of the project results might result in the specification of policy recommendations which, when applied, will lead to country-wide scaling-up of the project approach



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