



Study visit Croatia

Biomass value chain for renewable energy

Varaždin - Našice
November 16-18, 2015

Introduction

The Study visit on Biomass value chain for renewable energy was enabled through the support of the FLED project implemented by CNVP Albania. CNVP is working in the Balkan region and implementing its programme through implementing different projects related to forestry, rural development and renewable energy. CNVP Albania implements a four year project Forest for Local Economic Development (FLED), promoting improved decentralized decision making, planning and implementation for communal forests and pastures in support of more inclusive economic development. This Study visit was organized for private forest owners – members of REFORD.

Regional Centre for Forestry and Rural Development (REFORD) is a network organization gathering private and communal forest organizations as well as forest expert organizations from the Balkan region for networking and coordinating organization aiming at rural development, using natural resources in a sustainable way. In order to support the capacities and roles of the Federations on regional level this cooperation focuses on two main issues: 1. Support national meetings on sharing and learning innovative technical knowledge (meetings, lobbying, coordinating) and 2. Study, review, share RD practices and knowledge with other relevant organizations in Balkan region and wider. Objectives of REFORD are also strengthening the institutional, policy & legal framework for communal forestry with special attention to governance principles such as: accountability, transparency, rule of law and participation/social inclusion. Therefore a Study visit was conducted to share regional knowledge on biomass value chain for renewable energy in Croatia.

Report

First day – Sunday – 15 November

Departure from Balkan
Arrival in Varaždin, hotel Turist
Welcome dinner and information about program

Concerning the fact that most of the participants has to travel very long distance to arrive in Varaždin, first day of the visit were planned only for travelling and unofficial meeting and discussion during the dinner.

Second day – Monday – 16 November

Place: Čakovec, Međimurska county
Guide: Miljenko Županić, Mario Vlašić
Topics: *Biomass storage; Production and transport of woodchips; Heating plant*

Time: 8.00 – 10.00
Visit: Promming d.o.o., Miroslav Novinščak, director
Topic: Biomass value chain

Promming d.o.o. is company which core business is production of store and warehouse equipment. In technology process they need heat on 300 °C which could be reached only by gasoil or biomass heating plants, so they replace gasoil plant with biomass plant and the final benefits along economical was also great ecological improvement. For they biomass heating plant which has 1.5 MW power they use woodchips which they produce by themselves from firewood and wood residues which they buy from Croatian state forest company or private forest owners. As the material must be dry for this heating plant they have big storage outside the factory. For transport of wood material they have classic forest truck with crane. For production of woodchips they use Mus-Max mobile equipment which can use trunks up to 80 cm diameter. This woodchipper is not self propelled and it use shifting axle from agricultural tractor (min. power is 180 KS). For transport of woodchips they use special trailer for big trucks with capacity of 90 m³. As they also buy wood in forest they use multifunctional harvester-bundler-forwarder equipment for extraction of wood to forest roads. As they own all this forest equipment they also produce and sell woodchips for the market.

From this example REFORD members could learn and valued advantages of replacement of traditional gasoil heating plant with woody biomass technology which beside the positive ecological effect of using the renewable energy sources also offer good economical and social aspects (few new workplaces).



Place: Lepoglava, Varaždinska county
Guide: Miljenko Županić, Ana Funda, Tomo Rešetar, Alojz Gredelj
Topics: Agro-turist cluster; APFO; Projects in private forests

Time: 10.00 – 15.00 (including lunch)
Visit: Turistic and Cultural Information Center (TCIC), private forest in Lepoglava municipality
Topic: Rural development and firewood production

In Lepoglava we visit TCIC as one of the good examples how old public building could be renovated and use with the subsidies from EU. This building after renovation has multifunctional spaces which can be use for all public purposes.

Ana Funda presented Agro-turist cluster which was founded with the purpose of developing rural tourism and agriculture through uniting tourist and agricultural offer of hardworking people of our region. The cluster provides its members with assistance in their

presentation on the market and encourages their mutual cooperation as well as their cooperation with other entities in the area of the town of Lepoglava, the rest of Croatia and Europe, with which the region of Lepoglava shares the same interests. It tries to combine what its members have to offer to tourists into a unique product which would be available to all visitors to this destination and which would include accommodation and catering services together with the offer of local family farms and supporting facilities and activities through which visitors can discover the history of the region. The cluster promotes joint appearance of its members on the market in order to strengthen their market position.

After this presentation Miljenko Županić presented APFO 'Kesten' Lepoglava as one of the most active APFO in Croatia. They participate in international projects as well as in national, so APFO managed that all private forest in Lepoglava municipality has forest management plans. They also implement other projects as building forest roads (more than 22 km) and education of forest owners. They implemented projects in total value of 650000 euros. For they members APFO own 6 different forest equipments (3 log splitters, 2 winches and circular saw) which is only for personal use for preparation of firewood.

After presentations REFORD members visit Tomo Rešetar, president of APFO 'Kesten' Lepoglava, as all this equipment is stored by his house. Then we all visit one forest road which was built as a project of APFO and at the end we have lunch at one of the members of ATK Lepoglava.

Lepoglava case is very good example that in rural areas with small scales properties only joining can provide success as in agro-touristic or forestry fields. Joint used of expensive equipment in forestry or joint appearance on market can add additional value on products and ensure survive in rural areas.



Place: Varaždin, Varaždinska county

Guide: Sheza Tomcini, Arjol Lila

Topics: Prepare REFORD lobbying action plan ; REFORD Assembly meeting

Time: 16.00 – 19.00

Visit: hotel Turist, Varaždin

On afternoon session which was held at Rotary room, hotel 'Turist' Sheza Tomcini was conducted presentation about advocacy and lobbying. In this session colleagues from National Private Forest Owners Associations from Slovenia also participate. Veronika

Valentar, general secretary and Jože Mori, board member express their gratitude with invitation and possibilities to share experiences and problems with other PFO in the region. They also express willingness to join the REFORD network and ask for official invitation to be discussed on their Management board meeting.

After this presentation and discussion assembly meeting has begun and was held by Arjol Lila with assistance of Anela Stavrevska-Panajotova. Assembly was held according to agenda and it was decided that Management board with leading by newly elected president Miljenko Županić should be responsible to conduct Manual of administrative procedures in short time.

The dinner was organized in Vinska kuća Tomšić, Železna gora, Međimurska county.



Third day –Tuesday– 17 November

Place: Kloštar Podravski, Koprivničko-križevačka county
Guide: Miljenko Županić
Topics: *Production of forest seedlings*

Time: 08.00 – 11.00
Visit: Marijana Šadek, dipl. ing. Forestry
Topic: *Production of seedlings of fast growing species*

On the way to eastern part of Croatia we visit forest nursery 'Limbuš' in which we had tour around the nursery led by Marijana Šadek. During this tour we were introduced with forest seedlings production and we could see all equipment for nursery. REFORD members were also able to see extraction and storage of seedlings as one part of the currently production process in forest nurseries.



Production of forest reproductive material is very important because quality of regeneration or reforestation of future forest depends on genetic potential and quality of seedlings. For that reason production of FRM is under strong supervision of public institutions.

Place: Slatina, Virovitičko-podravaska county
Guide: Martin Kunštek, director
Topics: *Wood industry*

Time: 12.00 – 14.00 (including lunch)
Visit: Slavonski hrast d.o.o.
Topic: *Processing of wood from private forests*

In Slatina we visit wood industry Slavonski hrast d.o.o. which all raw material for processing buying from private forest owners. We were introduced in production process. We were leaded by Marin Kunštek, director and Zdenko Bogović, president of NAPFO Croatia and one of the owner of this company.



This factory is good example how private owners can get better price for their forest products. This company use only low quality trunks, which usually have low price, and with just simple primary processing give additional value and also employs people in rural areas.

Place: Našice, Osječko-baranjska county
Guide: Zdenko Bogović
Topics: *Biomass production, Natural forest regeneration,*

Time: 14.00 – 17.00
Visit: Private forest owners big estate (cca 11000 ha)
Topic: *Private forest estate management*

After the restitution process in Croatia one of the biggest private forest complex was established in Našice. In reality few big forest owners merge together and hire a company which manage their forest (all together more than 11000 ha). Zdenko Bogović is head of this company. Most of this forests are in area of *Quercus robur* and *Quercus petraea* small part is

in areal of *Fagus sylvatica* as a dominant species. On first stop we could see extraction of wood logs with forwarder after final cut in sessile oak forests. On second stop we visit part of forest which are under regeneration and preparing cut was conducted but it is still ongoing process. As this cut imply elimination of understorey species (mostly hornbeam, common ash...) and prepare surface for seed which will drop from old pedunculate oak trees, we could also see temporarily storage for wood residues for biomass which has big percentage in this type of cut. Most of this cut was conducted by harvester machine. Around this area a heavy iron fence were installed to protect seed and young plants from wild boar. At the end we visit the most valuable part of this pedunculate oak forest in which dominate 140 years old oak dominate.



The valuable part of this visit is also example of joint management because the big forest owners (more than 1000 ha) also recognised needs to join and hire company who manage more than 11000 ha of privately owned forests. Joint management provide many opportunities as for execution of forest works or for achieving better prices for final products.

Place: Našice, Osječko-baranjska county
Guide: Anela Stavrevska-Panajotova, Voislav Todorov
Topics: *Reford activities*

Time: 17.00 – 19.00
Visit: hotel 'Park' Našice
Topic: Coordinate REFORD regional activities in the period till July 2016

On the afternoon meeting we were discussing about forthcoming REFORD activities in ongoing projects together with CNVP advisors. After this meeting there was also held short Management board meeting. The dinner was organized in Pansion 'Ribnjak', Lila.

Fourth day – Wednesday – 23 April and 7 May
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Place: Strizivojna, Osječko-baranjska county
Guide: Miljenko Županić, Zdenko Bogović
Topics: *Biomass storage; Power plant*

Time: 8.00 – 10.00
Visit: Hrast d.o.o., Dražen Ravlić, technical director
Topic: Biomass value chain

The last stop on study visit was wood industry ,Hrast' Strizivojna. They had a big problem with electricity supply because in this rural area it was very expensive to invest in electricity lines to get enough power for this factory. So they use diesel generators until 4 years ago when the power plant on biomass was built and ready to work. Now they produce 3,3 MW electric power and sell it to the state electric company. The power plant was first of this kind in Croatia and was built with ecological subsidies. One part of heating power (in total they produce 17 MW of heat) they use in production process. Their core business is wooden floor products.



REFORD members discussed about this positive example and how in some extent can be replaced in their home countries. The main message of this example is that this is cost effective only if its closed circle of production like their combination, production of floors, use the residues for own heating and sell extra energy.

After this visit participants were departed to homelands.

Varaždin, 20. November 2015.

Miljenko Županić

Annex 1

Overall Program

15 th Sunday	Travel of participants to Varaždin	
20:00	Welcome and intro on overall program for the three days	Hotel Turist, Varaždin
	Dinner	Hotel Turist, Varaždin

16 th Monday	Study visit	
8:00 - 10:00	Visit woody biomass storage with mechanization	Čakovec
10:00 – 13:00	Visit PFOA Lepoglava / Agroturistic cluster	Lepoglava
13:00 – 14:00	Lunch	Lepoglava
15:00 – 17:00	Prepare REFORD lobbying action plan	Hotel Turist, Varaždin
17:00 – 19:00	REFORD Assembly meeting	Hotel Turist, Varaždin
20:00 –	Dinner	TBC

17 th Tuesday	Study visit	
08:00 – 10:00	Visit forest nursery	Kloštar Podravski
10:00 – 12:00	Visit wood industry 'Slavonski hrast' d.o.o.	Slatina
12:00 – 13:00	Lunch	Slatina
13:00 - 16:00	Visit private oak forest and forest biomass production	Našice
17:00 – 19:00	Coordinate REFORD regional activities in the period till July 2016	Hotel Park Našice
20:00	Dinner	

18 th Wednesday	Departure of participants	
08:00	Departure from hotel	Našice
09:00 – 10:00	Visit power plant on woody biomass	Strizivojna
10:00 -	Departure	

Annex 2

Participant list

1. Vojo Sokolovski, NAPFO MACEDONIA
2. Borce Bojcovski, NAPFO MACEDONIA
3. Anela Stavrevska-Panajotova, CNVP MACEDONIA
4. Voislav Todorov; CNVP MACEDONIA
5. Blerina Hoxha; NAPFO KOSOVO
6. Agron Nikqi; NAPFO KOSOVO
7. Mensura Nuhodzic, CNVP MONTENEGRO
8. Marko Hajdukovic, NAPFO MONTENEGRO
9. Dejan Zejak, NAPFO MONTENEGRO
10. Arjol Lila, NAPFO ALBANIA
11. Xhelal Shutl, NAPFO ALBANIA
12. Gazmir Mera, NAPFO ALBANIA
13. Sheza Tomcini, CNVP ALBANIA
14. Kadri Meda, CNVP ALBANIA
15. Duško Topić, NAPFO BIH
16. Aleksandar Mrkobrada, NAPFO BIH
17. Boris Marković, NAPFO BIH
18. Veronika Valentar, NAPFO SLOVENIA
19. Jože Mori, NAPFO SLOVENIA
20. Miljenko Županić, NAPFO CROATIA
21. Mario Vlašić, NAPFO CROATIA
22. Tomislav Nikolić, NAPFO CROATIA
23. Zdenko Bogović, NAPFO CROATIA