







Forest Bioenergy in the Protected Mediterranean Areas

ITALY

Transferring of past and current know-how

4.3.1 Training reports



Giugno 2019

Work package 4 - Transferring Activity A.4.3 - Transferring of past and current know-how D 4.3.1 Training reports Training reports were prepared by LP, PP1 and PP2

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1 LIST OF ORGANIZED TRAININGS

After each training, update this document with latest information regarding the organized event.

Table 1 Summary of organized trainings

No.	Partner	Country	Date	Place	No. of participants
1	LP - Municipality Of Petralia Sottana (PP1), Enviland (PP2)	Italy	16-04-2018	Great Hall of the Department of Agricultural, Food and Forest Sciences (SAAF) of the University of Palermo	59
2	LP - Municipality Of Petralia Sottana (PP1), Enviland (PP2)	Italy	27-06-2018	Great Hall of the Department of Agricultural, Food and Forest Sciences (SAAF) of the University of Palermo	51
3	LP, Municipality Of Petralia Sottana PP1, Enviland PP2	Italy	23-10-2018	Great Hall of the Department of Agricultural, Food and Forest Sciences (SAAF) of the University of Palermo	58
4	LP, Municipality Of Petralia Sottana PP1, Enviland PP2	Italy	06-12-2018	Great Hall of the Department of Agricultural, Food and Forest Sciences (SAAF) of the University of Palermo	66
5	LP, Municipality Of Petralia Sottana PP1,	Italy	10-06-2019	Great Hall of the Department of Agricultural, Food and Forest Sciences (SAAF) of	52

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ioEnergy	4

	Enviland PP2			the University of	
				Palermo	
6	LP, Municipality Of Petralia Sottana PP1, Enviland PP2	Italy	27-06-2019	"Sala Lanza", Botanical Garden, University of Palermo	46

2 TRAINING REPORTS

2.1 Training no. 1

2.1.1 Technical report

Pilot Area	Regional Park of Madonie
Event title	Bioenergy and Protected Areas: a possible union?
Involved partner	LP Regional Department of Rural and Territorial Development,
Involved partner	Sicilian region - PP1 Municipality Of Petralia Sottana - PP2 Enviland
Dosponsible partners	LP Regional Department of Rural and Territorial Development,
Responsible partners	Sicilian region
Location	Great Hall of the Department of Agricultural, Food and Forest
Location	Sciences (SAAF) of the University of Palermo
Date	16-04-2018

No. of participants	59
Target groups	Technicians of local administrations, regional and local administrators, private technicians of the sector, students of the Department of Agricultural, Food and Forest Sciences of University of Palermo
Trainers/speakers	 7 speakers: Prof. Federico G. Maetzke, Department SAAF, University of Palermo Dott. Massimo Pizzuto Antinoro, LP ForBioEnergy Project, Regional Department of Rural and Territorial Development, Sicilian region Dott. Donato S. La Mela Veca, Department SAAF, University of Palermo Dott. For. Paolo Contrino, Expert technician in the forest sector Dott. Antonio Casula, Regional Forest Agency for the Development of the Territory and the Environment of Sardinia (FoReSTAS) Ing. Salvatore D'Urso, Energy Department, Sicilian region Dott. Alessandro Ficile, Agency of local development of Madonie SOSVIMA
Training materials	 PPT presentations: Energy enhancement: biomasses and short supply chains Objectives, deliverables and expected results of the ForBioEnergy project The results of the Interreg MED ProForBioMed project The forestry and socio-economic context of the Regional Natural Park of Madonie The use of forest biomasses for bioenergy production in the

Sardinia Region

- The Regional Energy Plan: a focus on the biomass sector
- The energy strategy within National Strategy for Internal Areas
- 2. Dissemination material:
- ForBioEnergy brochure
- ForBioEnergy Roll-up
- Report of the Interreg Med ProForBioMed project: "Improving of the energy efficiency and promotion of renewable energy sources"
- Report of the ProForBioMed project
- Report of the Life project ResilForMed "Climate change resilience of Mediterranean forests"

(describe in few sentences what was main aim and goals of the training, who were participants, shortly describe the programme and the training process)

The main goal of the 1st training course, entitled "Bioenergy and Protected Areas: a Possible Union?", was to transfer past and current knowledge and experience regarding the potentiality of bioenergy production with forest biomasses within protected areas to experts, professionals and local decision-makers and stakeholders. The participation of expert trainers has allowed an effective discussion between professionals, sector operators and other stakeholders, in order to improve the skills and knowledge of the participants. The meeting, which lasted about five hours, was attended by officials and technicians of local and regional administrations, administrators, technicians of private companies operating in the forest sector, agronomists and forestry professionals, as well as students of the Department of Agricultural, Food and Forest Sciences of the University of Palermo. Seven oral reports were presented during the Training course. The first report was dedicated to the presentation of the ForBioEnergy project. Then, the results obtained by the Interreg MED ProForBioMed project were showed and shared, especially addressed to boost the use of the residual forest biomass in the Mediterranean basin. The effective chance to develop such sector and the implementation methods were also showed. The example of good practices continued with the report by the Sardinia Region, which has recognized experience in the use of biomass for the production of bioenergy. The other reports allowed the participants to have a lot of information about the current energy situation of the Sicily Region. The report by the Energy Department provided information about the Regional Energy Plan, including the public announcements that the administration is preparing to issue

Report on training

for the development of the sector. One of the speakers presented the forest and socio-economic context of the Parco delle Madonie (the pilot area of the project). The report on the energy strategy and the interventions planned for the use of biomass for energy purposes, which the SNAI (National Strategy for Internal Areas) has envisaged for the Madonie Park, was very interesting as the area in question falls within the pilot area of the project. For the participants, therefore, the training course was an opportunity to inform and gain knowledge about the biomass sector, as well as a moment of discussion and debate with different points of view. Furthermore, the participation of some representatives of regional and local authorities has allowed a moment of confrontation between the public officials responsible for the development of the biomass sector and the professionals and technicians involved in the same sector.

Describe discussion and opinion of the participants. Was there any active participation? How did the participants evaluate the training? What are lessons learnt?

The final moment of the training day included a wide debate among the participants, which had the opportunity to deepen the topic of the training course and to learn about the new opportunities that the biomass sector may offer. The participation was very active as demonstrated by the numerous questions posed to the speakers by those present. In particular, the questions concerned:

- -the current use of woody biomass in the Sicilian region;
- -the legislative and administrative restrictions concerning the use of biomass within protected areas;
- -the funding and development opportunities deriving from the use of biomass (with particular reference to the RDP, Rural Development Programme).

The answers were clear and satisfactory. For instance, regarding the aspects related to regional funding, the Director of the Energy Department, Dr. D'Urso, showed the key points of the announcements to be published soon. D'Urso himself has also stated that "Until today we have been accustomed to know the forest simply as an assisted sector; the goal is to completely reverse the situation, as it was done in the Sicilian wine sector which, from being in the past a totally assisted sector, it has now become a national excellence". At the end of the debate, the representatives of SNAI Madonie and the Italian partners of the Project (LP, Municipality of Petralia Sottana, Enviland) agreed to collaborate and work in synergy, both in the planning phase and in the sharing and dissemination of results.

The participants expressed satisfaction and positively evaluated the activities of the training course, they got new information and different points of view about forest issues and the use of biomasses. They have particularly appreciated the project for its ecological

Feedback from participants

imprinting, given that the main objective is to find a good combination between the use of forest biomass for energy purposes and the protection of the natural environment. In addition to the specific technical and experiences made in areas and contexts similar to those in Sicily, among the other lessons learned by the participants, one of the most important is that the collaboration between public and private sectors is undoubtedly possible and necessary for the sustainable development of the biomass sector in Sicily.

2.1.2 Attachments

EVENT AGENDA (invitation, program)





















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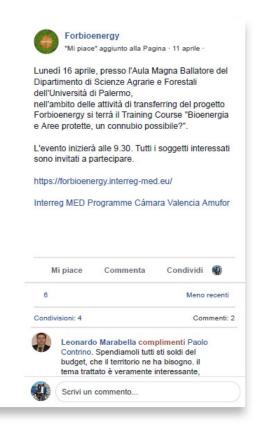
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OTHERS (media reports: newspapers, web page) Facebook invitation:







3 TRAINING REPORTS

Training no. 2 3.1

3.1.1 <u>Technical report</u>

Pilot Area	Madonie Regional Park		
Event title	"Assessment of the risks and benefits deriving from the extraction of		
Event title	biomass in protected areas"		
Involved partner	LP Department of Rural Development and Territorial Region of Sicily		
Involved partner	- PP1 Municipality of Petralia Sottana - PP2 Enviland		
Responsible partners	LP Department of Rural and Territorial Development, Sicilian Region		
Location	Great Hall of the Department of Agricultural, Food and Forest		
Location	Sciences (SAAF) of the University of Palermo		
Date	27-06-2018		

No. of participants	51
Target groups	Operators of local administrations, regional and local administrators, private operators of the forest sector, students of the Department of Agricultural, Food and Forest Sciences of the University of Palermo, other operators of the category.
Trainers/speakers	 7 speakers: Dr. Claudia Rubino, Enviland srl Prof. Tommaso la Mantia, SAAF Department, University of Palermo Dr. Donato S. La Mela Veca, SAAF Department, University of Palermo Dr. Giuseppe Baiamonte, Department of Sciences and Technologies (DST), University of Sannio Dr. Federico Marrone, STEBICEF Department, University of Palermo Dr. Sebastiano Sferlazza, SAAF Department, University of Palermo Dr. Salvatore Tinervia, SAAF Department, University of Palermo
Training materials	 PPT presentations: Main objectives of the Deliverable 3.5 of the ForBioEnergy project ForBioEnergy Deliverable Project 3.5 "Assessment of the impact of the increase in the use of biomass, in short-medium- and long term in protected areas" management of forest resources in protected areas: impacts and/or benefits for biodiversity conservation methodology for the assessment of the impacts of forestry operations for the extraction of forest biomass in protected

- areas: the case study of the Madonie Regional Park
- assessment of the impacts on biotic components: the plant communities
- assessment of the impacts on biotic components: the animal communities
- assessment of the impacts on the abiotic components
- assessment of the impacts on the social, economic, and demographic aspects and ecosystem services.
- 2. Dissemination material:
- ForBioEnergy brochure
- ForBioEnergy Roll-up
- Interreg Med ProForBioMed project report: "Improving of the energy efficiency and promotion of renewable energy sources"
- Report of Life ResilForMed project "Resilience to Climate change in Mediterranean forests"

(describe in few sentences what was main aim and goals of the training, who were participants, shortly describe the programme and the training process)

The second training course aimed to analyze and discuss about the risks and benefits deriving from the extraction of forest biomass in protected areas. During the activity, the impacts on the biotic components (animals and plants), as well as on the abiotic ones, were discussed. The possible impacts on ecosystem services and on social, economic and demographic components were also evaluated. The course lasted for about six hours and the speakers were university professors, researchers and technicians. The training course was attended by technicians and officials from local and regional administrations, administrators of public organizations, technicians of private companies operating in the forest sector, different professional categories, agronomists and forestry professionals, students of the Department of Agricultural, Food and Forest Sciences of the University of Palermo.

Report on training

The seven speakers were:

- -Dr. Claudia Rubino of Enviland Srl (PP2 of ForBioEnergy), showed the most important objectives of the Deliverable 3.5, aimed to define a methodology for the assessment of risks and benefits deriving from the extraction of biomass on environmental components (biotic and abiotic) and socio-economic aspects.
- -Prof. Tommaso La Mantia talked about the management of forest resources in protected areas, with particular reference to "impacts and/or benefits for the conservation of biodiversity in Sicily". From

his analysis, it has emerged that "the increase of the forest areas in Sicily, occurred in the last decades, has not determined a significant increase of the present biodiversity" and that the current forest management, uniform and based on standard addresses (common prescriptions), does not guarantee the quality of forest habitats. Hence, it is necessary to implement a forest management plan on a local scale and make sound choices that are consistent with the needs and the peculiarity of local forest ecosystems. Finally, it should be noted that, within protected areas, too restrictive protection measures against forests may strongly hinder the chance to enhance their biodiversity and the overall conservation status. This is typically the case for afforested areas and woodlands subject to historical exploitation.

-Dr. Donato La Mela Veca talked about the energy use of the residual forest biomass obtainable from the sustainable management of local forests. This is possible only in the context of clear procedures of forest planning. For that purpose, it is necessary to draw up and implement a Forest Management Plan, including the chronosequence of necessary forest interventions

For the assessment of the impacts, the methodology used for the Deliverable A3.5 "Threats and benefits of the biomass use in protected areas" of the ForBioEnergy project was presented. The evaluation was carried out for the forest habitats present in the Natura 2000 sites, falling within the territory of the Madonie Natural Park, pilot area of the project in Sicily.

The two subsequent speeches concerned the assessment of the impacts on biotic components (plants and animals) deriving from the extraction of biomass in protected areas.

- Baiamonte discussed about the impacts on the plant communities and explained the working methodology that includes: the identification of indicators, actions and threats, as well as any corrections to be taken to eliminate the impacts deriving from the extraction of biomass on the plant communities.
- Dr. Marrone talked about the impacts on the animal communities and explained the methodology followed to evaluate the risks and benefits deriving from the production of forest biomass on the animal communities present in protected areas. It is necessary to implement a forest management planning that takes into account the forestry practices, their potential threats to the animal communities of different forest habitats and the identification of the most suitable indicators to assess the potential impacts in the short-, medium- and long term.
- -Dr. Sferlazza talked about the assessment of the impacts deriving

from the extraction of biomass in the protected areas on the abiotic components. The indicators to be monitored include: deadwood, litter, soil organic carbon (SOC), erosion and fire risk.

-Dr. Tinervia presented the methodology required to evaluate the possible impacts on social, economic, and demographic components, as well as on ecosystem services. The analysis shows that the development of a forest-wood-energy supply chain could have positive impacts both on the economic context (creation of new business, job opportunities and development) and on the social context (growth and well-being of the local community). The liveliness of the final debate and the numerous guestions addressed to the speakers by the community of technicians, administrators and representatives of the different categories present demonstrate the considerable interest in the topics dealt with.

describe discussion and opinion of the participants. Was there any active participation? How did the participants evaluate the training? What are lessons learnt?

At the end of the training course, the participants evaluated the training day through a questionnaire consisting of 4 questions, expressing a degree of satisfaction going from 1 (not at all satisfied) to 5 (very satisfied). 31 participants answered to the questionnaire.

The questions and the related evaluation results are shown below.

Question 1: Are the objectives of the training considered appropriate?

45% of the participants consider themselves "very satisfied", 32% are "quite satisfied", 20% are "satisfied" and only 3% are "not at all satisfied".

Question 2: Has the organization of the training been finest?

49% of the participants consider themselves "very satisfied", 32% are "quite satisfied", 16% are "satisfied" and only 3% of the participants are "not at all satisfied".

Question 3: Will you use the knowledge acquired in your professional or training activities?

61% of the participants believe that they will use a lot of the knowledge acquired in the professional and/or training activities, 36% will use it enough, while 3% of the participants will use it little.

Question 4: Are there any important topics that could have been treated and are not included in the training?

The suggested topics are: Case studies of public and/or private managed forests and related effects; Management multidisciplinary assessment processes; Description of reference frameworks for evaluations.

Feedback from participants

The training day ended with a long and intense debate among the participants and the speakers. Several times the lack of adoption of forest management plans was highlighted, suggesting that they are fundamental not only for the protection and conservation of forest biodiversity, but also for the possible utilization forest biomass, provided they are obviously sustainable. The high scientific and professional profile of the speakers provided the participants with a high level of training, giving them a complete picture of the possible impacts that could derive from the extraction of biomass in protected areas, along with the potential opportunities for socioeconomic development, and for improving the quality of forest areas.

3.1.2 Attachments

EVENT AGENDA (invitation, program)





Forest Bioenergy in the Protected Mediterranean Areas

Palermo 27/06/2018 FAcoltà di Agraria Università degli Studi di Palermo 2° Corso di formazione "Valutazione dei rischi e dei benefici derivanti dall'estrazione della biomassa nelle aree protette"

QUESTIONARIO DI VALUTAZIONE

Workpackage 4 - Transferring Activity A.4.3. - Transferring of past and current know-how

















Scala di valutazione

- 1- PER NIENTE
- 2- POCO
- 3- SODDISFATTO
- 4- ABBASTANZA
- 5- MOLTO

QUESTIONARIO DI VALUTAZION	IE				
 Gli obiettivi formativi del training sono ritenuti appropriati? 	1	2	3	4	5
2) L'organizzazione del training è stata ottimale?	1	2	3	4	5
3) Userete la conoscenza acquisita nelle vostre attività professionali o formative?	1	2	3	4	5

4) Ci sono argomenti importanti che avrebbero potuto essere trattati e non sono inclusi nella formazione?

Project partners



















OTHERS (media reports: newspapers, web page)

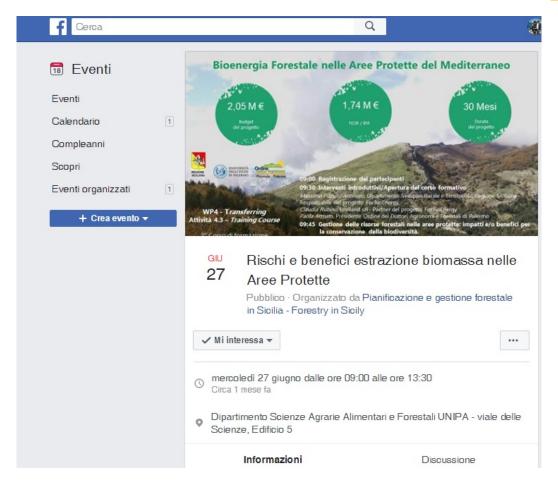
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4 TRAINING REPORTS

4.1 Training no. 3

4.1.1 Technical report

Pilot Area	Madonie Regional Park
Event title	"Actions and strategies to remove/reduce the effects of barriers that hinder/prevent the setting up of forest-wood-energy chains in protected areas"
Involved partner	LP Department of Rural Development and Territorial Region of Sicily - PP1 Municipality of Petralia Sottana - PP2 Enviland
Responsible partners	LP Department of Rural and Territorial Development, Sicilian Region
Location	Aula Magna of the Department of Agricultural, Food and Forestry Sciences (SAAF) of the University of Palermo
Date	28-10-2018

No. of participants	58
Target groups	Operators of local administrations, regional and local administrators, private operators of the sector, students of the Faculty of Agriculture of Palermo, other operators of the category.
Trainers/speakers	 5 speakers: Dr. Peppuccio Bonomo, Madonie Regional Natural Park Dr. Angelo Merlino, Regional Federation of Agronomists and Forestry Doctors of Sicily Dr. Claudia Rubino, Enviland S.r.l. Dr. Emilio Badalamenti SAAF Department Dr. Antonio Ventre, Union of Municipalities "Valdarno and Valdisieve (FI)
Training materials	 PPT presentations: Current authorization and regulatory framework for forest interventions in the Madonie Natural Park Opportunities and limits of the forestry measures of the Rural Development Plan (RDP) 2014-2020 for Sicily Possible actions and strategies for the removal of barriers that prevent/hinder the use of forest biomass in the Madonie Natural Park (results of the ForBioEnergy project working group) The forest management in Tuscany between limits and opportunities. Examples of good practices in protected areas Dissemination material: ForBioEnergy brochure ForBioEnergy Roll-up

- Interreg Med Proforbiomed project report "Improving of the energy efficiency and promotion of renewable energy sources"
- Report Life ResilForMed, Resilience to the change of the Mediterranean Forests

(describe in few sentences what was main aim and goals of the training, who were participants, shortly describe the programme and the training process)

The third training course aimed at analyzing and discussing the results of the assessment referred to "actions and strategies to remove/reduce the effects of the barriers that hinder/prevent the setting up of wood-energy forest chains in protected areas". The training course lasted about six hours, attended by technicians and officials from local and regional administrations, administrators of public organizations, technicians from private companies operating in the forest sector, various professional categories, agronomists and forestry experts, students from the Department of Agriculture, Food and Forest Sciences of the University of Palermo. The speakers were five, in detail:

Report on training

Peppuccio Bonomo, the Director of the Madonie Regional Natural Park, talked about the "Current authorization and regulatory framework for forest interventions in the Madonie Natural Park". Some tables concerning the forestry aspects of the Madonie Park were showed. Among the most relevant data the following: the forest area index, which shows that 38% of the Park is covered by woodlands, mainly represented by oak species, such as cork oak, holm oak, ecc. Bonomo pointed out that in the Madonie Park there could be the conditions necessary for the setting up and development of an efficient forest-wood-energy supply chain. However, there is the need to implement the Forest Management Plan for proper regulation, as provided for the guidelines for the drafting of forest management plans. The current administrative practice, based on regional regulations, has authorized only few forest operations aimed at cutting and timber harvesting from the Park's woods. The presentation continued with slides dedicated to the current regional rules and regulations governing forestry sector and coal production activities in the Regional Parks of Sicily Region. To date, by an agreement with the University of Palermo, studies and preparatory cartographic works to define the "Forest Plan of the Madonie Park", have been carried.

Dr. Merlino, as delegate of the Regional Federation of Agronomists

and Forestry Doctors of Sicily, has informed the participants about the "Opportunities and limits of the forestry measures of the Rural Development Plan (RDP) 2014-2020 for Sicily". The RDP 2014-2020 for Sicily represents the instrument for financing and implementing the European Agricultural Fund for Rural Development (EAFRD). As part of the EAFRD budget planning to the Sicily Region, resources amounted to € 2,212,747,000, with an increase of over € 27 million compared to the former allocation within the 2007-2013 RDP. Such data makes Sicily the region of Italy to which the highest budget has been allocated at national level. The report is continued showing in detail the measures concering the Sicilian forest heritage. They are the following: the Measure 8, concerning the investments in the development of forest areas and the improvement of the profitability of forests, and the Measure 16 concerning cooperation. The Measure 8 supports reforestation and afforestation activities, interventions for the prevention of fire damage, as well as those caused by natural disasters and/or catastrophic events, the restoration of forests damaged by wildfires, by natural disasters and/or catastrophic events, investments aimed at increasing the resilience and environmental value of forest ecosystems, for modernizing and improving the efficiency of production facilities. It also provide funding for supporting forestry technologies and the transformation, mobilization and marketing of forest products. The Measure 16.8 financially supports the drafting of Forest Management Plans, thus helping to fill the critical lack of forest planning.

The Dr. Emilio Badalamenti (SAAF Department, University of Palermo), and Dr. Claudia Rubino (Enviland S.r.L, Pp2 Forbioenergy), showed the results of the working group carried out within the framework of WP3, Activity 3.6, Deliverable 3.6.1, which allowed the elaboration of an "Action Plan for a new regulatory framework and authorization process in protected areas". Their talk was focused on the possible actions and strategies needed for the removal of the main barriers that hinder the use of forest biomass in the Madonie Natural Park. The drafting of the Action Plan was preceded by the development of a SWOT analysis, which highlighted the strengths and weaknesses, opportunities and threats related to the use of forest biomass within the the protected area of Madonie Natural Park. Subsequently, the talk was focues on the objectives of the ForBioEnergy Project in the Italian pilot area. The general objective is the "Use of the wood residual biomass deriving from the sustainable forest management in the Madonie natural park for energy purposes". Then, other six specific objectives were identified, concerning the enhancement of the planning of forest resources, the support for the establishment of forest enterprises, promoting the cooperation between private and public actors, the increase the structural complexity, the resilience and the functioning of forest ecosystems in the protected areas, the increase of the skills and technical capacity of forestry companies/enterprises operating in the area, the increase of the awareness of the local community on the economic and environmental benefits that can derive from the sustainable management of forest areas in protected areas, and, finally, the fostering of the use of local wood, including certified wood products. The talk continued with the identification of the main barriers that hinder the use of forest biomass for energy purposes in the Madonie Natural Park. The barriers may be administrative (the lack of forest planning tools), technical (limits and obstacles to the development of the forest sector), economic (forestry activity with low or null profitability) and social (hesitancy in the exploitation of the biomass in protected areas unwillingness of local actors to the cooperation and association). For each barrier, a number of specif barrriers were identified, along with the possible way to tackle them and the possible solutions to overcome the barriers and specific barriers.

The Dr. Antonio Ventre, as delegate of the "Union of Municipalities Valdarno and Valdisieve (FI)", talked about "the forest management in Tuscany between limits and opportunities. Examples of good practices in protected areas". The speaker firstly showed the forest framework for Tuscany, which has a forest area index of 50.1%, corresponding to 1,151,539 hectares. Then, he talked about the use of timber derived from planned cuttings, how many human resources are used in this activity, and what are the emerging issues. Subsequently, he showed an example of forest management in a protected area, directly coordinated by the public body of the Municipalities Valdarno and Valdisieve (FI). The activity of cutting allows to obtain about 40,000 tons per year of woody biomass, from the utilization of 430 hectares of forest area. The wood obtained flows into the wood-energy chains (as firewood or wood chips) or it is used as structural material, for handicraft, for poles, etc. The Union takes care of the training activities for the forest operators, and to draw on European, national and regional funds to improve the infrastructures and machinery needed for the implementation of the forest-wood-energy supply chain. Within this scope, several biomass plants have been established for the production of thermal energy or combined heat and power (cogeneration power plants) of small or medium size. Data from such plants show that the municipalities involved in the supply chain, which use biomass for the production of energy, have had a saving of over 75% on fuel costs compared to

diesel fuel and LPG (liquefied petroleum gas).

describe discussion and opinion of the participants. Was there any active participation? How did the participants evaluate the training? What are lessons learnt?

At the end of the training activities, the participants evaluated the training day through a questionnaire consisting of 4 questions, expressing a degree of satisfaction going from 1 to 5, with 1 meaning "not at all satisfied" and 5 "very satisfied". 30 participants answered to the questionnaire.

The questions and the related evaluation results are shown below.

Feedback from participants

Question 1: Are the objectives of the training considered appropriate?

50% of the participants consider themselves "very satisfied", 43% consider themselves "quite satisfied", 7% are "satisfied"

Question 2: Has the organization of the training been finest?

53% of the participants consider themselves "very satisfied", 43% consider themselves "quite satisfied", 4 % consider themselves "satisfied"

Question N.3: Will you use the knowledge acquired in your professional or training activities?

56% of the participants believe that they will use a lot of the knowledge acquired in the professional and/or training activities, 40% will use it enough, while 4% of the participants will use it little.

Question N.4: Are there any important topics that could have been treated and are not included in the training?

None of the participants answered this question

4.1.2 Attachments

EVENT AGENDA (invitation, program)



Progetto co-finanziato dal Fondo Europeo per lo Sviluppo Regionale Programme cofinanced by the European Regional Development Fund

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Forest Bioenergy in the Protected Mediterranean Areas

WORKPACKAGE 4-TRASFERRING ACTIVITY A.4.3 - TRASFERRING OF PAST AND CURRENT KNOW-HOW

3° Corso di formazione "Azioni e strategie per rimuovere/ridurre gli effetti delle barriere che ostacolano/impediscono la realizzazione di filiere bosco legno- energia nelle aree protette"

PALERMO 23/10/2018 Dipartimento Scienze Agrarie, Alimentari e Forestali, Università di Palermo

QUESTIONARIO DI VALUTAZIONE

Scala di valutazione

- 1- PER NIENTE
- 2- POCO
- 3- SODDISFATTO
- 4- ABBASTANZA
- 5- MOLTO

	tivi del training sono appropriati?	1	2	3	4	5
 L'organizzazione otti 	del training è stata imale?	1	2	3	4	5
맛이 그렇게 이 어린이 없는 이번 생각이 되었다면 있었다.	a acquisita nelle vostre onali o formative?	1	2	3	4	5
4) Ci sono argomenti importanti che avremmo dovuto trattare e non sono stati inclusi nella formazione?	*					























Progetto Europeo Interreg MED ForBioEnergy_3a giornata formati

Mercoledì 17 Ottobre 2018 06:47 | Ufficio Stampa



4 TRAINING REPORTS

4.1 Training no. 4

4.1.1 Technical report

Pilot Area	Madonie Regional Park					
Event title	"Forest planning and biomass production for energy purposes in protected areas"					
Involved partner	LP Department of Rural Development and Territorial Region of Sicily - PP1 Municipality of Petralia Sottana - PP2 Enviland					
Responsible partners	LP Department of Rural and Territorial Development, Sicilian Region					
Location	Great Hall of the Department of Agricultural, Food and Forest Sciences (SAAF) of the University of Palermo					
Date	06-12-2018					

No. of participants	66					
Target groups	Operators of local administrations, regional and local administrators, private operators of the sector, students of the Faculty of Agriculture of Palermo, other operators of the category.					
Trainers/speakers	Pr. Paolo Girgenti, Regional Department of Rural and Territorial Development Pr. For Paolo Contrine CAAE Department					
	 Dr. For. Paolo Contrino, SAAF Department Dr .For. Ivan Buscemi, SAAF Department Dott.ssa Roberta Berretti, DISAFA Department, UNITO 					
Training materials	PPT presentations: - Forest planning in Sicily: history and recent developments - Methods and tools to support the forest planning of territorial scale addressed to the production of biomass for energy purposes in the Madonie Park - Preliminary results of the forest management plan of the Biomass District "Petralia Sottana - Petralia Soprana - Castellana Sicula" - Current events and scenarios of forest planning in Piedmont 2. Dissemination material: - ForBioEnergy brochure					

- ForBioEnergy Roll-up
- Interreg Med Proforbiomed project report "Improving of the energy efficiency and promotion of renewable energy sources"
- Report Life ResilForMed, Resilience to the change of the Mediterranean Forests

(describe in few sentences what was main aim and goals of the training, who were participants, shortly describe the programme and the training process)

The fourth training course was focused on "forest planning and the production of biomass for energy purposes in protected areas". The training course lasted about six hours, it was attended by technicians and officials from local and regional administrations, administrators of public organizations, technicians from private companies operating in the forest sector, various professional categories, agronomists and forestry experts, students from the Department of Agriculture, Food and Forest Sciences of the University of Palermo. The speakers were four, in detail:

Report on training

Dr. Paolo Girgenti, Regional Department of Rural and Territorial Development, talked about "Forest planning in Sicily: history and recent developments". He firstly discussed about the regulatory framework for the Sicilian forests. Subsequently, he showed the stages leading the Sicily Region to provide itself with a regional forest plan. The updating of the forest plan concerns the knowledge part, such as the description of forest categories and forest types, based on the information from the Regional Forest Inventory and the forest map, but also the address part, in which, for example, a chapter is dedicated to forest planning, also reporting in detail the forest management and sustainability standards for the Sicilian forests. Some new elements included in the plan were: the guidelines for territorial and local planning, the development of supply chains, in particular those related to cork, the research, experimentation and dissemination of knowledge activities. In the last two years, the Guidelines for the drafting of the Forest Management Plan and the Simplified Plan have been developed (Assessor Decree, December 2, 2016, No. 85). The latter is adopted in the case of artificial forests of coniferous and deciduous trees, with areas of single forest stands lower than 250 hectares.

Dr. For. Paolo Contrino, SAAF Department, talked about "Methods and tools to support the forest planning of territorial scale addressed to the production of biomass for energy purposes in the Madonie Park". The first part of the speech was dedicated to identifying the biomass districts in the Madonie Park. They are the administrative units aimed at planning biomass supply chains for energy use. The criteria adopted for the detection were the following: territorial contiguity, total area of the municipalities even partly falling within the protected area, current agro-forestry area, distribution and characteristics of the main road network, the location of residential areas, municipal energy needs. Subsequently, he illustrated some examples of the use of DSS (Decision Support System) in territorial forest planning, such as the BiomasFor project implemented in the province of Trento. The DSS are tools aimed at supporting the planning of bioenergy production in protected areas, and allowing to plan the biomass supply chains for energy use, ensuring ecological and socio-economic sustainability. The speaker illustrated the objectives of the DSS, i.e. to describe the biomass districts in the GIS environment and to draw up the map of accessible wooded lands, so as to be able to establish the appropriate size of the plants for the production of energy and heat and the relative area of biomass supply.

Dr .For. Ivan Buscemi, SAAF Department, talked about "Preliminary results of the forest management plan of the biomass district Petralia Sottana - Petralia Soprana - Castellana Sicula". The first part of his speech was generally dedicated to the forest management plan, its establishment, regulations and objectives. Subsequently, for the identified biomass district, he described the activities carried out to detect the existing forest parcels (N = 30) and the sub-parcels (N = 136). The following activities were carried out: the geographical classification of the target area of the plan and identification of the ownership. identification of the current the constraints (hydrogeological, landscape, environmental, ecc.), the identification of forest parcels on a physiographic basis and any sub-parcels on a physiognomic basis, cartographic processing of the parcels. The next surveys will allow to describe the parcels with the help of specific sheets in order to identify the main ecological features, the disturbance factors, either anthropic or natural, which may affect the technical management, the accessibility, the current vegetation types and the description of their main features, as well as the potential biomass production.

Dott.ssa Roberta Berretti, DISAFA Department UNITO, talked about "Current events and scenarios of forest planning in Piedmont". She described the works carried out in the Piedmont Region for the forest planning at a regional level, including the establishment of the forest inventory, the monitoring of forests, ecc. For private owners, all these tools are available together with plans for expected interventions and future intervention projects. Subsequently, the speaker showed the structure of the forest plan of the Piedmont region. Then, she talked about the management of forests in the supra-municipal context, adopting the territorial forest plans (TFPs). The main strengths of a TFP are the following: the acquisition of detailed quantitative and qualitative information about the extant forests resources, the management potentials for forests pastures, the establishment of interdisciplinary and technical work groups, the involvement of local administrations and stakeholders, the creation of standard for plans implementation and regional forest information system. The speaker then talked about the company forest plans (CFP) currently adopted in Piedmont, which may be adopted by companies with specific characteristics, and which require several updates to make them more usable.

describe discussion and opinion of the participants. Was there any active participation? How did the participants evaluate the training? What are lessons learnt?

At the end of the training activities, the participants evaluated the training day through a questionnaire consisting of 4 questions, expressing a degree of satisfaction going from 1 to 5, with 1 meaning "not at all satisfied" and 5 "very satisfied". 42 participants answered to the questionnaire.

The questions and the related evaluation results are shown below.

Feedback from participants

Question 1: Are the training objectives of the training considered appropriate?

40% of the participants consider themselves "very satisfied", 41% consider themselves "quite satisfied", 19% are "satisfied"

Question 2: Has the organization of the training been finest?

51% of the participants consider themselves "very satisfied", 41% consider themselves "quite satisfied", 8% consider themselves "satisfied"

Question N.3: Do you use the knowledge acquired in your professional or training activities?

52% of the participants believe that they will use a lot of the knowledge acquired in the professional and/or training activities, 38% will use it enough, while 10% of the participants will use it little.

Question N.4: none of the participants answered this question

4.1.2 Attachments

EVENT AGENDA (invitation, program)



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Forest Bioenergy in the Protected Mediterranean Areas

WORKPACKAGE 4-TRASFERRING ACTIVITY A.4.3 - TRASFERRING OF PAST AND CURRENT KNOW-HOW

4º Corso di formazione "Pianificazione forestale e produzione di biomassa a fini energetici nelle aree protette"

PALERMO 06/12/2018 Dipartimento Scienze Agrarie, Alimentari e Forestali, Università di Palermo

QUESTIONARIO DI VALUTAZIONE

Scala di valutazione

- 1- PER NIENTE
- 2- POCO
- 3- SODDISFATTO
- 4- ABBASTANZA

QUESTIONARIO DI VALUTAZIO 1) Gli obiettivi formativi del training sono ritenuti appropriati? 2) L'organizzazione del training è stata ottimale? 3) Userete la conoscenza acquisita nelle vostre attività professionali o formative?			2	3	4	5
			2	3	4	5



















TRAINING REPORTS

5.1 Training no. 5

5.1.1 Technical report

Pilot Area	Madonie Regional Park				
Event title	Forest certification and planning of the forest-wood-energy supply chain in the protected areas				
Involved partner	LP Department of Rural and Territorial Development, Sicilian Region - PP1 Municipality of Petralia Sottana - PP2 Enviland				
Responsible partners	LP Department of Rural and Territorial Development, Sicilian Region				
Location	Great Hall of the Department of Agricultural, Food and Forest Sciences (SAAF) of the University of Palermo				

Date 10-06-2019

No. of participants	52					
Target groups	Operators of local administrations, regional and local administrators, private operators of the sector, students of the the Department of Agricultural, Food and Forest Sciences of the University of Palermo, other operators of the forestry category.					
Trainers/speakers	 4 speakers: Dr. For. Sebastiano Sferlazza SAAF Department Dr .For. Emilio Badalamenti SAAF Department Dr .Agr. Antonino Galati SAAF Department Dr .Agr. Santino Orlando SAAF Department 					
	 PPT presentations: Decision support system (DSS) for territorial and local forest planning for bioenergy production in Protected Areas. Definition of the forest-wood-energy supply chain in the Biomass District of Petralia Sottana-Petralia Soprana and Castellana Sicula (PA) The certification in the forest-wood sector. 					
Training materials	 Techniques and work systems with low environmental impact for the harvesting of biomass in Protected Areas Dissemination material: ForBioEnergy brochure ForBioEnergy Roll-up Interreg Med Proforbiomed project report "Improving of the energy efficiency and promotion of renewable energy sources" Report Life ResilForMed, Resilience to the change of the Mediterranean Forests 					

(describe in few sentences what was main aim and goals of the training, who were participants, shortly describe the programme and the training process)

Interreg Med ForBioEnergy is a project of European interest cofunded by the European Fund for Regional Development. On Monday 10 June 2019, at the Great Hall of the Department of Agricultural, Food and Forest Sciences, University of Palermo, the fifth training course "Forest certification and planning of the forest-wood-energy supply chain in the protected areas", was held. The training lasted for about six hours, and was attended by technicians and officials from local and regional administrations, administrators of Public organizations, technicians of private companies operating in the forest sector, various professional categories, agronomists and foresters, students of the Department of Agriculture, Food and Forest Sciences of the University of Palermo. Four experts of the sector presented reports, below are the details of the interventions:

Report on training

Dr. For. Sebastiano Sferlazza SAAF Department - Decision Support System (DSS) for territorial and local forest planning for bioenergy production in Protected Areas. The speech by Dr. Sferlazza began with an overview of the situation especially regarding the following issues: the planning processes are lacking or are mainly oriented to passive conservation of forest ecosystems; inadequacy of the current regulatory framework and of the authorization process for forest interventions; lack of processes and innovative projects in the field of the bio-energy sector. One of the objectives of the ForBioEnergy project is to support the administrations in planning the supply chain of biomass for energy use in a protected area. In this regard, as a preliminary activity in the project, the biomass district 4 (Petralia Soprana, Petralia Sottana and Castellana Sicula) was identified and characterized, defined as homogeneous administrative unit, aimed at planning a supply chain of biomass for energy use, compatible with the principles of protection of the natural environment and promoting the socio-economic development of the territory. Subsequently, the forest management plan was drawn up for the district, and a Decision Support System (DSS) was then implemented. A software was developed in a GIS environment, using both the commercial ArcGIS software and the open source QGIS software. Two models have been generated (Basic and Advanced). In all cases, the architecture of the model includes:

- The definition of the input information layers (Input);
- Selection of the algorithms to be applied;
- The return of the uotput information layers (Output).
- The Decision Support System (DSS) will support the

administrations in the actions to be taken regarding the production of bio-energy within the district, and will facilitate the monitoring of the forest heritage, necessary for strategic planning.

- Dr .For. Emilio Badalamenti, SAAF Department - Definition of the forest-wood-energy supply chain in the Biomass District of Petralia Sottana-Petralia Soprana and Castellana Sicula (PA). Dr. Badalamenti firstly showed the main objective of the ForBioenergy project, namely to promote the use of residual agro-forestry biomass for energy purposes within the Madonie Natural Park. In the case of forest areas, biomass derives from interventions of sustainable forest management, following the principles of systemic silviculture, with the main objective of maintaining the ability of forest systems to provide useful goods and services to the community over time (ecosystem services), or to favor the dynamics and natural regeneration of forests. Therefore, biomass for energy use is not the main objective of management, but, rather, it may represent a possible productive destination following silvicultural interventions that are necessary for the survival and improvement of the forest systems. The report continued with two slides showing respectively: an example of a micro-supply chain conceivable within the district 4, and the main barriers to the setting up of a short forest-wood-energy supply chain. The second part of the speech illustrated the process of drawing up of the forest management plan (FMP), and the related results. The management plan concerned the woody formations falling within the Biomass District 4 (Municipalities of Castellana Sicula, Petralia Soprana and Petralia Sottana), which includes about 2,700 ha of forest area. In sequence, the parcel and the dendrometric surveys have been carried out. The field data, and the following calculations allowed us to determine the biomass that can be used for energy purposes, i.e. the total aboveground biomass (main trunk and branches) of the species of poor economic value, as well as the branches of all the surveyed trees. Other assortments (mostly firewood) can be obtained from the stems of the valuable species exceeding set diameter thresholds. Furthermore, the total biomass available for energy purposes was determined during the validity period of the FMP, and sorted by ownership regime. In conclusion, in the study area (Biomass District 4), the woody biomass available for energy use, derived from the sustainable forest management (within the framework of necessary FMPs) is significant (≈ 24,000 t). Hence, there is the possibility of creating small biomass plants, which must be suitably sized and placed so as to constitute a short chain, that should be sustainable from an ecological and socioeconomic point of view.

- Dr. Agr. Antonino Galati SAAF Department - Certification in the forest-wood sector. Dr. Galati introduced his intervention, dealing with the theme of sustainability, and the increasing attention by customers towards sustainable lifestyles, which should lead to the reduction of indiscriminate consumption of natural resources. The following slides illustrated the concept of certification, and showed the main operations needed to certify a product. The main international management systems are Quality System (SQ), Environmental management system (EMS), and Integrated Quality-Environmental Safety System (QSA). A product or process can be certified. Around the year 1990, the need for sustainable management of forest areas arose, with the will to promote an international tropical wood control scheme to reward "Responsible" production and trade of the wood. The certification is identified as a tool capable of providing credible guarantees to consumers by demonstrating the company's commitment to social, environmental and economic principles. A slide in particular defined what forest certifications are, that is tools through which an independent body accredited to the company assesses whether forest management respects predetermined ecological, economic and social standards, and certifies compliance with the principles of sustainability through a written document. The schemes that can be used for the certification of forest organizations are: General schemes for process certification (not specific to the forest sector, like ISO14001, EMAS, ecc.), general schemes for product certification (ecolabel, PGI, organic products, ecc.), specific schemes developed for the forest sector for certification, which generally also allow the use of a product brand (FSC, PEFC). The forest certifications currently usable are: Forest Stewardship Council (FSC); Program for Endorsement of Forest Certification Schemes (PEFC).

Dr.Agr. Santino Orlando SAAF Department - Techniques and work systems with low environmental impact for biomass collection in Protected Areas. Prof. Orlando introduced his report discussing the concept of environmental impact, based on the principle that it is always better to prevent the possible negative effects of a project than to combat its consequences at a later moment. In general, the environmental impact is a set of effects on the environment determined by an event, an action or a certain behavior driven by man. Evaluating it means predicting which consequences, either positive or negative, will have a certain action on the environment. Defining the impact of forestry use on the environment is particularly complex. There are no low environmental impact work systems that could be valid in all situations, but there are different extraction systems and technical devices that allow the environmental impact to be minimized. The main negative effects of forestry works are at ground level, especially during the concentration and extraction phases. The main impacts on the atmosphere can be traced back to both the emission of pollutants contained in the exhausts of machinery and motorized equipment, and to the noise pollution caused by the noise emitted by machinery. Of considerable impact are the polluting emissions (exhaust gas, oil) and the noise of the chainsaw. Due to breakages or unscrupulous maintenance interventions, there are often huge losses of oil and/or fuels that easily reach and pollute the watercourses and streams. The presentation continued with the demonstration of low impact techniques for the yarding and handling of timber.

describe discussion and opinion of the participants. Was there any active participation? How did the participants evaluate the training? What are lessons learnt?

At the end of the training activities dedicated to "Forest certification" and planning of the forest-wood-energy supply chain in the protected areas", the participants evaluated the training day through a questionnaire consisting of 4 questions, expressing a degree of satisfaction going from 1 to 5, with 1 meaning "not at all satisfied" and 5 "very satisfied". 16 participants answered to the questionnaire.

The guestions and the related evaluation results are shown below.

Question 1: Are the training objectives of the training considered

42% of the participants consider themselves "very satisfied", 39% consider themselves "quite satisfied", 19% are "satisfied"

Question 2: Has the organization of the training been finest?

68% of the participants consider themselves "very satisfied", 22% consider themselves "quite satisfied", 10% consider themselves "satisfied"

Question N.3: Do you use the knowledge acquired in your professional or training activities?

51% of the participants believe that they will use a lot of the knowledge acquired in the professional and/or training activities, 37% will use it enough, while 12% of the participants will use it little.

Question N.4: three participants proposed the following themes:

1) What costs and incomes can be obtained with the production of bio-energy

Feedback from participants

- 2) Planning of new forest and/or agricultural areas for biomass production
- 3) Detailed analysis of the economic and environmental costs/benefits associated to forest bioenergy production

5.1.2 Attachments



Partner del progetto



















https://forbioenergy.interreg-med.eu/



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EVALUATION QUESTIONNAIRE









6 TRAINING REPORTS

6.1 Training no. 6

6.1.1 Technical report

Pilot Area	Madonie Regional Park	
Event title	Final results of the ForBioEnergy Project "Forest Bioenergy in the Protected Mediterranean Areas"	
Involved partner	LP Department of Rural and Territorial Development, Sicilian Region - PP1 Municipality of Petralia Sottana - PP2 Enviland	
Responsible partners	LP Department of Rural and Territorial Development, Sicilian Region	
Location	"Sala Lanza", Botanical Garden, University of Palermo	
Date	27-06-2019	

No. of participants	46					
Target groups	Operators of local administrations, regional and local administrators, private operators of the sector, students of the the Department of Agricultural, Food and Forest Sciences of the University of Palermo, other operators of the forestry category, Project's partners from Slovenia, Croatia and Spain.					
	 11 speakers: Dr. Massimo Pizzuto Antinoro, Department of Rural and Territorial Development 					
	- Prof. Dr. José-Vicente Oliver and Rebeca Aleix, AMUFOR (Spain)					
	- <i>Dr. Pietro Oieni</i> , Ministry of Agriculture, Food and Forestry policies (MIPAAF), Directorate-General of Forestry					
	- Dr. Despoina Karniadaki, Enviland srl					
Trainers/speakers	- Dr. Donato S. La Mela Veca, SAAF Department, UNIPA					
Traillers/speakers	- Dr. Marco Niccolini, DREAm Soc. Coop. S.r.l.					
	- <i>Dr. Antonio Parrinello</i> , Director of the National Park "Pantelleria Island"					
	 Dr. Kristina Sever, Slovenian Forestry Institute (Slovenia) and Dunja Mahne, Regional Development Agency Green Karst Ltd (Slovenia) 					
	- Dr. Leonardo Iuri Neglia, Mayor of Petralia Sottana					
	- Dr. Giuseppe Tresca and Stefano Campeotto, AIEL					
	- Dr. Marija Krnjajić, Zadar County (Croatia)					
Training materials	PPT presentations:					

- The ForBioEnergy project
- Action Plan to remove the administrative and technical barriers that hinder the use of biomass in the protected areas
- Among European guidelines and national legislation: the Forestry Directorate General of Forestry of MiPAAFT for a careful use of forest resources
- Assessment of the potential impacts deriving from the biomass extraction in protected areas
- Planning of the use of biomass for energy purposes at territorial and local scale in protected areas
- Examples of forest planning and estimation of the woody biomass with LIDAR data
- Environmental and technical assumptions for the implementation of ForBioEnergy in the National Park "Pantelleria Island"
- Planning of the sustainable wood-energy supply chain and biomass quality requirements in protected areas
- Short wood-energy supply chain: the case study of the Municipality of Petralia Sottana (PA)
- Professional production of wood chips and certification: business models and application examples
- Communication tools created through the ForBioEnergy project
 - 2. Dissemination material:
 - ForBioEnergy brochure
 - ForBioEnergy Roll-up
 - Interreg Med Proforbiomed project report "Improving of the energy efficiency and promotion of renewable energy sources"
 - Report Life ResilForMed, Resilience to the change of the Mediterranean Forests

(describe in few sentences what was main aim and goals of the training, who were participants, shortly describe the programme and the training process)

Report on training

Interreg Med ForBioEnergy is a project of European interest cofunded by the European Fund for Regional Development. On Thursday 27 June 2019, at the "Sala Lanza", Botanical Garden, University of Palermo, the sixth training course "Final results of the ForBioEnergy Project "Forest Bioenergy in the Protected Mediterranean Areas", was held. The training lasted for about seven hours, and it was attended by technicians and officials from local and regional administrations, administrators of Public organizations, technicians of private companies operating in the forest sector, various professional categories, agronomists and foresters, students of the Department of Agriculture, Food and Forest Sciences of the University of Palermo, as well as by Project's partners coming from Slovenia, Croatia and Spain. The training course was introduced by Prof. Federico Maetzke, SAAF Department, UNIPA, who illustrated the organization of the course and the main issues faced during the course. Then, eleven experts of the sector presented reports; below are the details of the interventions:

- Dr. Massimo Pizzuto Antinoro, Department of Rural and Territorial Development. The speech by Pizzuto Antinoro showed the general characteristics of the ForBioEnergy project, including the main results achieved, the most relevant obstacles faced during the project.
 - Prof. Dr. José-Vicente Oliver and Rebeca Aleix, AMUFOR (Spain). Their talk was focused on the Action plan for a new regulatory framework and permit route in the protected areas which has been developed in the ForBioEnergy project by each involved partner. The speech explained all the necessary phases to design and implement the action plan. Firstly, the speech was focused on the main objectives (among them to identify recommendations for the key actors involved, to develop an Action Plan at the regional & MED partner area level, To implement a new regulatory framework, ecc.). Then, the methodology adopted to identify the main barriers (legislative, administrative, technical, social and economic) was shown. On the one hand, some barriers were shared among the involved partners (e.g.: reticence to use biomass in protected areas, the fragmented ownership of private forest, the low profitability in biomass production, ecc.), thus underlining the need for similar solutions and/or approaches. On the other hand, each partner has also identified some specific objectives, strictly linked to the local environmental or socio-economic conditions. For instance, nine specific objectives were identified in Spain. After the identification, the next step was to identify the possible solutions for each barrier (and sub-barrier), including the responsible actor, and the time frame (short-, medium- or long-term). Finally, the speaker stated that the involvement of all key actors are essential to overcome the barriers and active the forest-based bioenergy value chain. In conclusion, a sustainable forest management may reduce the risk of forest fires, conserve the forest ecosystem and contributes directly to the rural development.

- Dr. Pietro Oieni, Ministry of Agriculture, Food and Forestry policies (MIPAAF), Directorate-General of Forestry. The speech was focused about the strategic role of the Forestry Directorate General of Forestry of MiPAAFT in the framework of the European guidelines and national legislation about the sound use of forest resources. He illustrated the available technology to ensure reduced emissions of greenhouse gases and high energy efficiency in the biomass plants. The most important aspects of the most recent Italian forestry law /N. 34/2018) were also shown. Particularly, the first two implementing decrees of this State Law were focused on the training of forest workers and the register of forest enterprises.
- Dr. Despoina Karniadaki, Enviland srl. The speech was focused on the possible environmental impacts caused by biomass harvesting in protected areas. The necessity to use techniques and work systems with low environmental impact for biomass collection is particularly felt within protected areas. One important objective of the ForBioEnergy Project was to develop and implement an effective methodology for the assessment of the risks and benefits deriving from forest biomass production in protected areas. The planned forest interventions should follows the principles of systemic silviculture and sustainable forest management, having the main objective of maintaining over time the ability of forest systems to provide goods and services useful to the community (ecosystem services), and to favor the dynamics and natural regeneration of forests. Therefore, biomass for energy use is not the main objective of management, but, rather, it may represent a possible productive destination following silvicultural interventions that are necessary for the survival and improvement of the forest systems. The impacts have to be assessed according to the specific forest operation (e.g. logging, cutting, yarding, ecc.). Specific indicators to assess the impacts on flora, fauna and abiotic components, were developed. The impacts to the social and economic components have also to be considered (e.g. possibility of increasing local employment) as well as those to the ecosystem services provided by forest ecosystems (e.g. protective function, carbon sequestration, ecc.). The indicators were selected through a rigorous process, taking into consideration the regulatory aspects, then it was shared and discussed with the project's partners. The defined methodology is flexible and transferable and it could be applied in other areas of the Mediterranean.
- Dr. Donato S. La Mela Veca, SAAF Department, UNIPA. The speech was focused on the forest planning tools considered and developed within the ForBioEnergy Project. A multi-level planning process has been implemented, including regional, local and operating scale. Particularly, the Activity A3.4

(Planning biomass-based energy production at regional and sub-regional level in protected areas) included deliverables: D3.4.1 (Geographical identification description of biomass districts in the protected areas) and D3.4.2 (DSS for planning biomass-based energy production in the protected areas). At local scale, specific Biomass Districts (BDs) were identified, that is the administrative units with the aim to plan biomass supply chains for energy use, ensuring ecological and socio-economic sustainability. The BDs represent the administrative units for the forest planning at company/local scale. The "open source" Decision Support System (DSS) has been implemented to support the Authorities responsible for land strategic planning in the identification of the Biomass Districts. In addition the DSS, implemented with other detailed layers (e.g. accessibility level of the forest areas, quantity of biomass obtainable from sustainable forest management, etc.), could be used as support for the drafting of the forest management plan (A.3.7) and for the design of the bioenergy supply chain (A.3.8). DSS could also be used, within the pilot BD, as a support for determining the optimum plant size (and power) for energy and heat production and the relative biomass supply area. Finally, in the pilot protected areas, the Forest Management Plan within one Biomass district has been drafted with the main aim to assess the woody biomass effectively available to feed a local forest-woodenergy supply chain, ecologically and socio-economically sustainable.

- Dr. Marco Niccolini, DREAm Soc. Coop. S.r.l. The speech was focused on the most recent technological advances concerning LiDAR datasets, and their possible use for forestry planning and stand volume estimation. Firstly, the way the LiDAR data are collected in the field were explained. Such data may allow to obtain the Canopy Height Model (CHM) and the DTM (Digital Terrain Model). The main aim is generally to assess the wood yield obtainable from a given forest area. However, other precious information for forest planning can be gathered with LiDAR data, such as the preliminary identification of viability, the help for identify and border the forest parcels, as well as the identification of the most suitable extraction systems of woody biomass. Then, the speaker illustrated some example cases where successfully used, especially for assessing the timber volume. Finally, the possible use of photogrammetric drones to update the Digital Surface Model (DSM) has been shown.
- Dr. Antonio Parrinello, Director of the National Park "Pantelleria Island". The speech was focused to describe the particular environmental conditions of Pantelleria island, which has been recently included among the National Parks in

Italy. This recognition is due to its great ecological, social and economic heritage. For instance the traditional agricultural practice of cultivating the 'vite ad alberello' (head-trained bush vines) of the community of Pantelleria has been inscribed in 2014 on the Representative List of the Intangible Cultural Heritage of Humanity. The island also hosts a rich flora, with almost 600 plant taxa. The Director of the Park illustrated the possible positive impacts the implementation of the forest management plan in Pantelleria island, following the results and approaches of the ForBioEnergy Project. Indeed, the forest areas of the island would require specific forest interventions, especially after the large fire of 2016, and the island is particularly interested in the promotion of renewable energy sources, among which wood is one of the most important. Indeed, Pantelleria is one of the 26 islands which launched their clean energy transition with the support of the European Commission's Clean Energy for EU Islands Secretariat.

- Dr. Kristina Sever, Slovenian Forestry Institute (Slovenia) and Dunja Mahne, Regional Development Agency Green Karst Ltd (Slovenia). The speech was focused on some important activities carried out within the ForBioEnergy Project concerning the planning of the sustainable wood-energy supply chain and biomass quality requirements in protected areas. For what concerns the supply chain, the sustainability, under the environmental and socio-economic point of view, can be firstly ensured by forest interventions carried out within a clear and sound forest planning tool, drafted according to the principles of sustainable forest management. In this way, only forest operations necessary to improve the conservation status of forest resources or to promote the development towards more complex and stable forest ecosystems are performed. The woody biomass resulting from these interventions could feed a sustainable short forestwood-energy supply chain. From the economic point of view the sustainability has been assessed in the project in terms of effective energy needs of local people and considering the possibility to establish a real wood market, which could provide positive effects on the employment levels as well as on the economic development of rural community. The importance of the quality of woody biomass for the economic sustainability of the supply chain has also been emphasized.
- Dr. Leonardo Iuri Neglia, Mayor of Petralia Sottana. The speech was focused to show the potential positive effects of the short forest-wood-energy supply chain for the municipality

of Petralia Sottana, which is partner of the ForBioEnergy project and falls within the Madonie Natural Park, Biomass District 4. In detail, the hypothesis to feed the boiler for the local swimming pool with the woody biomass deriving from the forest management of the surrounding woods, has been shown. The annual energy needs of the swimming pool is about 580,000 KWh. Within the project, the conversion from a diesel fuel (energy efficiency 50%) supply to a wood-chips boiler (energy efficiency 80%) has been hypothesized. This shift could ensure an overall saving of about 27,000 € per year. Even considering the cost necessary to convert the boiler from pellet to woodchips, the saving is high, of about 21,000 € per year. Such raw assessment highlights that a sustainable forest management can improve the conservation of forest resources, and also it may represent a high opportunity for the local development of the territory.

- Dr. Giuseppe Tresca and Stefano Campeotto, AIEL. The speech was focused on the professional production of wood chips and certification: business models and application examples. The examples derived from the activity of the Italian Association of Agroforestry Energy, which encompasses more than 500 companies at a national level. The speaker explained the organization of the Association and its main objectives; among them the certification of the biofuel quality. Then, several virtuous examples were illustrated. The main positive effects for local community can be the activation of local supply chains, the added value which remains in the territory, the quality biofuels & low atmospheric emissions, replicability.
- Dr. Marija Krnjajić, Zadar County (Croatia). The speech was focused to show the dissemination and communication activities carried out within the project by the different partners. These activities consisted in the distribution of brochures and other informative material (e.g. about the deliverables, during the technical panels and the training courses, ecc.). Some short videos illustrating characteristics of the protected areas and the beneficial effects of establishing a short forest-wood-energy supply chain using the woody biomass obtainable from the sustainable forest management and systemic silviculture, were also shown.

Feedback from participants

describe discussion and opinion of the participants. Was there any active participation? How did the participants evaluate the

training? What are lessons learnt?

At the end of the training activities dedicated to "Final results of the "Forest Bioenergy ForBioEnergy Project in the Mediterranean Areas", the participants evaluated the training day through a questionnaire consisting of 4 questions, expressing a degree of satisfaction going from 1 to 5, with 1 meaning "not at all satisfied" and 5 "very satisfied". 25 participants answered to the questionnaire.

The questions and the related evaluation results are shown below.

Question 1: Do you think that the results achieved in the ForBioEnergy project are useful for a sustainable management of forests?

85% of the participants consider themselves "very satisfied", 15% consider themselves "quite satisfied"

Question 2: Are you in favour of the use of residual wood as renewable source for the production of energy and heat in the protected areas?

68% of the participants consider themselves "very satisfied", 22% consider themselves "quite satisfied", 10% consider themselves "satisfied"

Question N.3: Will you use the knowledge acquired in the training course in your professional activities or in your approach in the issues about the natural resources?

85% of the participants believe that they will use a lot of the knowledge acquired in the professional and/or training activities, 15% will use it enough.

Question N.4: Has the organization of the training been the finest? 85% of the participants consider themselves "very satisfied", 15% consider themselves "quite satisfied"

6.1.2 Attachments



















https://forbioenergy.interreg-med.eu/

 $\textbf{Facebook:} \ \underline{\textit{@ForBioEnergy}} \quad \textbf{Twitter:} \ \underline{\textit{@ForBioEnergy}} \quad \textbf{LinkedIn:} \ \underline{\textit{www.linkedin.com/groups/13530086}}$



Bioenergia forestale nelle aree protette del Mediterraneo

(Forest Bioenergy in the Protected Mediterranean Areas)

Conferenza Finale / Final Conference

Palermo 20106/2019 Orto Botanico, Sala Lanza - via Lincoln, 2

QUESTIONARIO DI VALUTAZIONE

Scala di valutazione

- 1- PER NIENTE
- 2- POCO
- 3- SODDISFATTO
- 4- ABBASTANZA
- MOLTO

		VALUTAZIONE					
 Ritenete che i risultati conseguiti dal Progetto ForBioEnergy siano appropriati per una gestione sostenibile delle aree protette? 			1	2	3	4	18
2) Siete favorevoli all'uso del legno residuo come fonte rinnovabile per la produzione di energia e calore nelle aree protette?		1	2	3	4	15	
 Userete le conoscenze acquisite nelle vostre attività professionali e/o nel vostro approccio alle questioni che riguardano l'utilizzo delle risorse naturali? 		1	2	3	4	1/5	
4)	() L'organizzazione della conferenza è stata ottimale?		1	2	3	4	15
5)	Ci sono argomenti importanti che avremmo dovuto trattare e sono stati esclusi?						







Project partners











OTHERS (media reports: newspapers, web page)

Facebook invitation:





Pianificazione e gestione forestale in Sicilia - Forestry in Sicily

23 giugno · 🚱

Conferenza finale del progetto MED Interreg "ForBioEnergy" - 27 giugno 2019 - Sala Lanza dell'Orto Botanico di Palermo.

ForBioEnergy ha identificato, in termini di bioenergia, i punti di forza e di debolezza del contesto ambientale e socioeconomico che caratterizzano le aree protette di ciascuna regione UE coinvolta.

Le sfide di progetto sono state affrontate attraverso un processo partecipativo e condiviso che ha coinvolto istituzioni e organizzazioni sociali e produttive a livello regionale e locale.

Il contributo della cooperazione transnazionale ha consentito di affrontare le sfide in modo sinergico e di individuare le azioni da attuare per un'efficace politica regionale e locale per l'uso energetico della biomassa forestale residuale nel contesto delle aree protette delle regioni mediterranee ed in particolare:

- · adeguare il quadro normativo, gli strumenti di pianificazione e gli iter di autorizzazione per concretizzare, a livello locale, filiere forestali del legno, nel rispetto delle prescrizioni condivise e necessarie per salvaguardare gli ecosistemi nelle aree protette;
- promuovere processi di pianificazione forestale comuni, in grado di conciliare le esigenze di sviluppo socio-economico delle aree rurali e la gestione sostenibile delle risorse forestali, migliorandone la capacità di fornire servizi ecosistemici e la resilienza;



Forest Bioenergy in the Protected Mediterranean Areas

www.interreg-med.eu\ForBioEnergy



















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