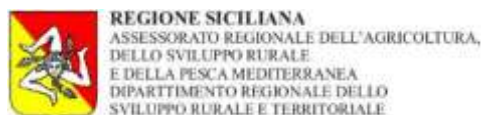


FORBIOENERGY - Forest Bioenergy in the Protected Mediterranean Areas

Regulatory framework and permit route concerning biomass use in the protected areas



D.3.6.1

Action plan for a new regulatory framework and permit route in the protected areas

Responsible Partner:

PP5: Association of Forest Municipalities of the Comunitat Valenciana (AMUFOR)

Contributing Partners:

LP: Sicily Region – Councillorship for Agriculture, Rural Development and Mediterranean Fishing – Regional Department for the Rural and Territorial Development

PP1: Municipality of Petralia Sottana

PP2: EnviLand Ltd

PP3: Slovenian Forestry Institute

PP4: Regional Development Agency Green karst Ltd

PP6: Valencia Official Chamber of Commerce, Industry, Services and Shipping

PP7: Zadar County

PP8: Public institution Nature Park Velebit

June 2018

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1. INTRODUCTION

In the protected areas, where the current regulatory restrictions and authorization procedures impede and slow down the development of the biomass sector, an action plan for a new regulatory framework for facilitating the bioenergy production and a simplify permit route will be realized. In the protected areas ensuring sustainability of production chain means firstly defending the biodiversity. Besides on the environmental aspects of sustainability the social, cultural or economic factors linked to the development of bioenergy will be considered.

This pilot activity will be implemented involving all relevant actors (Regional and local authorities, management bodies of protected areas, municipalities...). Concretely, this deliverable is a continuation of the study of the identification of all barriers with different characters (legislative, administrative, technical, social and economic) across the forest-bioenergy value chain (from the forest management to the distribution of thermal/electrical energy for public consumption) at regional level in particular and at the MED partner area in general. The study contains the required actions, to overcome the barriers, for new regulatory framework and permit route concerning the biomass use.

2. OBJECTIVE

4.1. General objective

The objective is to develop and action plan at regional, as well as at Mediterranean level to implement a new regulatory framework based on the whole study area of each region to enhance the integral use of forest biomass for bioenergy purposes.

Concretely, increase of the socio-economic and environmental activity in rural protected areas through the valorization of the forest resources. To achieve it, one of the main objectives of the project is the removal of the barriers in the forest-bioenergy value chain and to propose improvements in procedures, processes and legislation to achieve a faster, simpler and more cost-effective chain in protected areas, in addition to involve land owners and to motivate them to mobilise wood biomass, having the support of the local community and promote use of wood fuels in public buildings.

4.2. Specific objective (SO)

SO1: Enhancement of the planning of forest resources, both at the territorial and local level, through the drafting of the forest management plans based on a standardized Technical Instructions with normative character able to match the productive function of forests with the conservation of forest ecosystems and the landscape in protected areas

SO2: Establishment of local/short biomass production for energy purposes in a circular economy, promoting the cooperation between private and public actors.

SO3: Improving of forest ecosystems quality and stability in the protected areas.

SO4: Simplification of the administrative procedures to elaborate and approve forest management plans in the Natura 2000 protected areas.

SO5: To increase the skills and technical capacity of forestry companies/enterprises operating in the Natura 2000 areas.

SO6: Re-establishing agricultural land and cultural landscape to protect and preserve specific habitats and species of Natura 2000 sites.

SO7: To increase 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.

SO8: Elaboration and implementation of a communication plan that serves as a basis to quantify the benefits of the use of biomass to prevent forest fires, to improve ecosystems quality and resilience and to mitigate climate change

SO9: Establishment of local forest owner's association that will develop further in more market orientated legal form of cooperation.

3. METHODOLOGY

REGULATORY FRAMEWORK

FLOW CHART MODEL



IDENTIFICATION OF BARRIERS IN D.3.3.1



SELECTED STUDY AREA

At Regional level

Region	Study area
Croatia	Nature Park Telaščica
	Nature Park Vransko Jezero
	Nature Park Velebit
Sicily	The Madonie Regional Natural Park
Valencia	Comunitat Valenciana and focused on the SAC Macizo del Caroig
Slovenia	The Seasonal Lakes of Pivka Nature Park
	The Škocjan Caves Regional Park



PROPOSAL OF A NEW
REGULATORY FRAMEWORK AND
PERMIT ROUTE IN THE
PROTECTED AREAS OF EACH
REGION



PROPOSAL OF A NEW
REGULATORY FRAMEWORK AND
PERMIT ROUTE IN THE PROTECTED
AREAS AT MED REGION LEVEL

Table 1. Priorization of the six main barriers at MED region level (barrier, step of the value chain, character, stakeholders, proposal of possible solutions and operational recommendations)

Priority	Barrier	Step of value chain	Character	Stakeholders	Proposal of possible solutions	Operational recommendations
1 st	Long-time and complexity of authorization for the extraction of biomass in protected areas	Forest management and forest harvesting & Logistics	Administrative	<ul style="list-style-type: none"> (1) Local/regional public authorities (2) Private forest owners (3) Municipal forest owners (4) Private and public companies (5) Professional associations and technicians (forest engineers) (6) Management bodies of the protected areas 	<ul style="list-style-type: none"> (1) Simplification of the authorization procedures of forest management plans and harvesting operations. (2) Standardization for simplifying the administrative normative. (3) Objectives: <ul style="list-style-type: none"> - To ensure the timely release of permissions and to ensure the continuity of biomass supply. (4) Control system to evaluate for ameliorating the internal administrative procedures. 	<ul style="list-style-type: none"> (1) Political willingness to support sustainable forest management in protected areas. (2) Definition of policies and standardized procedures for administrative streamlining. (3) Provide more administrative staff and technical expertise in sustainable forest management in protected areas; especially bioenergy-use linked it with bushfires prevention.
2 nd	The fragmented ownership of private forest, the inadequate organisation and the lack of interest in biomass production.	Forest harvesting	Social	<ul style="list-style-type: none"> (1) Private forest owners (2) Local/regional public authorities 	<ul style="list-style-type: none"> (1) Organisation and establishment of local/regional associations of forest owners. (2) Environmental services payments for forest owners who undertake active and sustainable management in protected areas. 	<ul style="list-style-type: none"> (1) Promotion of agroforestry cooperatives at local level in the protected areas. (2) Active and efficient associative forest management formulas: private-public cooperation, territorial custodian entities, etc. (3) Inform local/private owners on best practices in other regions/countries. (4) Managers of protected areas (Natural Parks) organise workshops for private forest owners and actively participate in the establishment of the association. (5) To use rural development programme measures for boosting private forest associations' activities in protected areas.

Priority	Barrier	Step of value chain	Character	Stakeholders	Proposal of possible solutions	Operational recommendations
3 rd	Reticence to use biomass in protected areas: production function is not balanced with conservation function.	Forest management	Social	(1) Private forest owners (2) Municipal forest owners (3) Local/regional public authorities (4) Management bodies of the protected areas (5) Higher education and research (6) Professional education and technicians (forest engineers)	(1) Disseminate in the public opinion the basic principle of sustainable forestry: - Binomial between forest conservation and management. (2) Promote sustainable forest management measures appropriate for local climate and environmental climate conditions in the Mediterranean areas. (3) Arise awareness of the local communities on the benefits of sustainable forest management oriented to the biomass production for energy purposes, improving environmental services of the ecosystems and resilience against bushfires and climate change.	(1) Identification of pilot/project areas representative for good practices in sustainable and multifunctional forest management to be disseminated. (2) Quantitative analyses of criteria and indicators of environmental impact (biodiversity, quality of soil and water, landscape, carbon balanced and bushfires prevention) after biomass harvesting operations in protected areas. (3) Dissemination activities on the environmental benefits (biodiversity, quality of soil and water, landscape, carbon balanced and bushfires prevention) due to the energy production for biomass short chain.
4 th	Low profitability in biomass production, especially in protected areas	Forest management	Economical	(1) Private forest owners (2) Municipal forest owners (3) Private and public forest companies: harvesting and logistics (4) Manufacturers of biofuels	(1) Define and establish local forest biomass markets in protected areas that guarantee quality, price and supply. (2) To promote the local demand for biofuels in protected areas.	(1) Development and implementation of quality labels and traceability schemes of forest biomass and biofuels. (2) Promoting the use of biofuels at local level, especially in industries and public buildings/facilities with a high demand for thermal energy.

Priority	Barrier	Step of value chain	Character	Stakeholders	Proposal of possible solutions	Operational recommendations
5 th	Poor integration of local stakeholders across the forest-based bioenergy value chain	Distribution	Economical	<ul style="list-style-type: none"> (1) Private forest owners (2) Public forest owners (3) Private and public forest companies (4) Manufacturers of biofuels (5) Local/regional public RES agencies (6) Higher education and research (7) Standardization and quality control bodies/labs (8) End users of bioenergy 	<ul style="list-style-type: none"> (1) Knowledge exchange involved stakeholders at local/regional level. (2) Integration of stakeholders through specific association of forest bioenergy from the forest management to the bioenergy valorisation. (3) Coordination of the different departments of the local/regional public administrations to favour the development of the entire forest bioenergy value chain. (4) More transparency and competitiveness in the allocation of biomass harvesting operations especially in public forests, avoiding if possible oligopoly or monopoly situations by large companies or public enterprises. 	<ul style="list-style-type: none"> (1) Creation of forest bioenergy platforms at local level in protected areas. (2) Creation of forest-based bioenergy showrooms at local level to stimulate the demand of local biofuels.
6 th	Lack of synergies and coordination among the administrative levels (local, subregional, regional and national) in the territories included in the protected areas.	Thermal/ electrical energy conversion	Administrative	<ul style="list-style-type: none"> (1) Local/public authorities (2) Local/regional public RES agencies (3) Regional and municipal relevant departments and public companies (4) Management bodies of the protected areas (5) Infrastructure and public service provider 	<ul style="list-style-type: none"> (1) Awareness raising and involvement of local/regional authorities responsible for issuing permits linked to the biomass sector. (2) More involvement of managers of protected areas in the preparation of forest management plans, especially in Natura 2000 areas. 	<ul style="list-style-type: none"> (1) Establish of periodic technical/administrative panels among the involved local/regional authorities in order to highlight each other's competences and to define the operating modalities for the permissions issuing. (2) Regional authorities stimulate the participatory involvement of managers of protected areas in the preparation process of Forest Management Plans.

5. TIME FRAME

All the actions proposed are assigned a term of time to implement it. Concretely, it has been proposed three terms:

Short-term (ST): the action has to be achieved in 2019 (1 year).

Medium-term (MT): the action has to be performed between the periods 2020-2025 (2-5 years).

Long-term (LT): the action is foreseen to be achieved in 5 years (>2025).

6. RESPONSABILITIES

All key actors named in the proposed Action Plan are responsible to implement it. Nevertheless, in order to monitor and ensure the coordination of all key actors and regional Action Plans, one MED region level coordinator is crucial. Therefore, the Sicily Region, as project coordinator and engine of the ForBioEnergy project, it will lead the Action Plan, with the support of all regional coordinators.

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7. ABBREVIATIONS

Scheme of the Action Plan:

SO: Specific objective

B: Barrier

SB: Specific barrier

AT: Action

SA: Specific action

ST: Short-term

MT: Medium-term

LT: Long-term

Content of the Action Plan:

CAF: Chambers of Agriculture and Forestry

CCO: Chambers of COMmerce

FMP: Forest Management Plan

FOA: Forest Owner's Association

GIS: Geographic Information System

LAG: Local Action Group

LPG: Liquefied Petroleum Gas

PES: Payment of ecosystems services

RDA: Regional Development Agency

RDP: Rural Development Programme

TIFM: Technical Instruments for Forest Management

8. PROPOSED ACTION PLAN AT MED PARTNER AREA

SOCIAL BARRIERS

8.1. The fragmented ownership of private forest, the inadequate organisation and the lack of interest in biomass production (B1)

	Specific barrier	Why	Solution	How to tackle the barrier	With who
B1	SB11: High fragmentation of private forest ownership.	Difficulty in the planning and low feasibility of management on small surfaces (= uneconomical forest operation)	Encourage the establishment of forestry consortiums/cooperatives for the establishment of forest-wood energy chains. To update the layers derived from geographic information system.	A1: Activities aimed at facilitating the development of forest owners associations in order to reduce operating costs and improve forest management. A2: Raising awareness of the need of updating the GIS layers linked mainly with the cadastre.	Private and public forest owners; public administration; municipalities; Local companies dealing with biomass; Geodetic agency; Agroforestry Energy Associations/advisory agencies, Management body of protected areas.

	SO	SP	AT	Specific actions	Term			Responsible to face the costs	Expected result	Indicator
					ST	MT	LT			
B1	SO1, SO2, SO4	SB11	A1	SA11: Awareness, information and training activities for forest owners for promoting the establishment of associations/consortia: foster the entrepreneurial culture and cooperation benefits.		X		Municipalities.	Establishment of an association/consortium of forest owners.	Number of forest owners involved.
				SA12: Workshops on the Benefits of Using Biomass.	X			Regional administrationforest enterprises, geodetic agency.	A larger number of informed stakeholders.	Increased number of informed people.
			A2	SA21: Homogenization of the cartographic layers.	X			Geodetic agency.	Cadastre update.	Regular Cadastre Maintenance.
				SA22: Workshops to modify/implement the Cadastre Act.	X			Regional administrationforest enterprises, geodetic agency.	A larger number of informed parties. Establishment of a forestry association.	A larger number of informed parties. Establishment of a forestry association.

8.2. Reticence to use biomass in protected areas: production function is not balanced with conservation function (B2)

	Specific barrier	Why	Solution	How to tackle the barrier	With who
B2	SB21: Poor acceptance of forest biomass extraction, especially in protected areas	The use of environmental resources (including forestry ones) is often considered to be against the conservation and safeguard of nature and landscape.	Dissemination in public opinion about the important role of silviculture in the conservation and enhancement of forest resources and biodiversity.	A3: Information and awareness activities on forest management and biodiversity protection addressed to the local community.	Management body of protected areas; Municipalities; Universities; Environmental associations; local community; private owners; agroforestry energy association.

	SO	SB	AT	Specific action	Term			Responsible to face the costs	Expected result	Indicator
					ST	MT	LT			
B2	S07	SB21	A3	SA31: Information seminars and awareness-raising activities on the topic of the sustainable management of forest areas: dissemination.	X			Management body of protected areas	Raising awareness in the local community of the links between the forestry activities and the conservation/safeguard of biodiversity in protected areas.	Number of information and awareness campaigns. Number of involved stakeholders.

8.3. Lack of information and knowledge about opportunities of sustainable biomass use (B3)

	Specific barrier	Why	Solution	How to tackle the barrier	With who
B3	SB31: Small forest owners have low interest in active forest management; they do not see any financial benefits in biomass production.	Low available cut, small amount of harvested wood, high costs of forest operations and low income from forests.	Establishment and consolidation of forest owner's and land owner's cooperative that would offer common forest/land management and marketing of forest/agricultural products; establishment of organisational structures, associations or cooperatives of small forest owners.	A4: Establishment and consolidation of forest and land owners cooperative; forest owners association; forest and land owner's cooperative.	Established and consolidated forest owner's association (FOA) ; Regional Development Agency (RDA), Chambers of Agriculture and Forestry (CAF).
				A5: Support to small projects for local actors along biomass supply chains.	
	SB32: Poor awareness of the opportunities deriving from the exploitation of forest biomass for the production of energy and heat due to the lack of information and knowledge on the part of society.	Lack of knowledge of the economic and environmental benefits linked to the development of the wood-energy supply chain, especially on the urban population.	Increase the awareness of the local community (urban population) on the benefits of the sustainable forest management aimed at the use of biomass for the production of energy and heat.	A6: Information and dissemination activities on the environmental and economic benefits that could derive from the development of the forest-wood energy supply chains at local level, through a tactical level communication plan – training and awareness – based on a working group.	Management body of the protected areas; municipalities; LAG Universities; Environmental associations; local community; Regional administration; Agroforestry Energy Association; private enterprises; associations of forest (public and private) owners; forestry platforms; association of consumers and of forest biomass, forest enterprises/industries.

	SO	SB	AT	Specific actions	Term			Responsible to face the costs	Expected result	Indicator
					ST	MT	LT			
B3	S02 S07 S08 S09	SB31	A4	SA41: Identification of key person to lead the entity; Support the establishment of cooperative, encourage members, finding funds for start-up, encourage local communities.			X	Members are responsible to secure capital for establishment of cooperative.	Better price for agricultural and forest products and lower production costs.	Amount of agricultural and forest products marked through cooperative.
			A5	SA51: Awareness rising of potential consumers and producers of biomass about possibilities for preparation of projects: Finding appropriate project programs to include the issue of biomass consumption and production in it. Preparation of projects for the biomass consumption and finding sources for co-financing.			X	RDA, Chambers of Agriculture and Forestry (CAF), municipalities.	Increased biomass production. Increased use of biomass in public building.	Increased production of wood biomass. Increased share of locally consumed wood biomass within the study area. 80% of the energy needs for heating covered with wood fuels.
		SB32	A6	SA61: Dissemination of the monitoring results of correct forestry interventions carried out in other comparable forest areas: effects on the environmental components.		X		Regional administration.	Drafting of technical and scientific reports.	Number of technical report. Number of involved stakeholders.
				SA62: Animation of local and regional development stakeholder's private forest owners and legal entities: presentation of the situation on the demand and biomass supply market in the area.	X			Ministry of Environmental Protection and Energy; The Environmental Protection and Energy Efficiency Fund; Regional administration, Universities.	Increased public awareness of interested parties about developments in the biomass market.	Min. 10 consultation workshops with target groups and together; Min. 4 media/ Informative campaigns.
				SA63: Information seminars and workshops on the environmental and economic benefits that derive from the development of forest-wood energy supply chains at local level; active communication with forest owners and with the main stakeholders.	X	X		Regional administration, RDA, CAF, forestry associations.	Raising awareness of the economic impact and on the contribution to the reduction of CO ₂ deriving from the development of forest-wood-energy chains in the local community.	Number of training seminars. Number of involved persons/stakeholders.
				SA64: Presentation of best practices adopted in other contexts at European and national level.	X			Regional administration.	Greater knowledge of the benefits obtained for the local communities by the adoption of the best practices.	Number of initiatives/events for the presentation of the report. Number of reached stakeholders
				SA65: Development of a micro demonstration supply chain through the involvement of all key actors.		X		Municipalities.	Implementation of a best practice at local level.	Tons of fossil fuels saved. Tons of CO ₂ avoided.
				SA66: Communication plan for forest owners, forest industries, biomass consumers and public entities in rural areas.		X		Association of forest owners, forest enterprises/industries, chambers of commerce (CCO), Association of consumers and of forest biomass and public entities in rural areas.	Drafting communication plan.	Publication and Number of dissemination to owners/enterprises/biomass consumers and local entities

8.4. Lack of integration of entire forest bioenergy value chain (B4)

	Specific barrier	Why	Solution	How to tackle the barrier	With who
B4	SB41: Unawareness of possibilities for organisational and cooperative structures establishment, increased by the unwillingness for cooperation.	No organization of the stakeholders across the biomass wood chain.	Establishment and consolidation of organisational structures, associations or cooperatives of small forest owners	A7: Establishment and consolidation of forest owners association; forest and land owner's cooperative and to support to small projects for local actors along biomass supply chains.	RDA, CAF
	SB42: Lack of users (bigger and smaller)	Little opportunities at local level for the use of biomass	Encourage the installation of biomass boilers	A8: Co-financing the cost of supplying biomass boilers and education on the benefits of using biomass	Regional administration, Fund for environmental protection and energy efficiency.

	SO	SP	AT	Specific actions	Term			Responsible to face the costs	Expected result	Indicator
					ST	MT	LT			
B4	SO7, SO9	SB41	A7	SA71: Presentation of opportunities for forest owners' associations, among other also in biomass production and marketing.	X			RDA	Meetings will have positive effect on forest owners – enabling discussions.	No of organised meeting
				SA72: Identification of key person to lead the FOA: Make unformal and formal consolidations in local formal and unformal societies, to choose the best leader for the FOA.	X				Key persons are needed to start with the process of establishment of FOA	No. of key persons identified
				SA73: Communication with forest owners and biomass consumers: Presenting opportunities for the consumption of biomass within the study area.			X	RDA, CAF, municipalities	Increased biomass production. Increased use of biomass in public buildings	Increased production of wood biomass. Increased share of locally consumed wood biomass within the study area, 80% of the energy needs for heating covered with wood fuels.
				SA74: Forest owners education: Connecting forest owners – organization of workshops, events. Identify stakeholders in the biomass chain.		X		RDA, CAF, municipalities	Established local FOA that will develop further in market orientated legal from of cooperation (e.g. cooperative)	At least one FOA
	SO2	SB42	A8	SA81: Co-financing of the cost of purchasing biomass boilers.	X			Regional administration, funds directed to energy efficiency	A large number of built-in boilers	Increase the number of built-in boilers on the wood chips
				SA82: Education on the benefits of using biomass: Workshops.	X			Administration, universities.	A large number of informed stakeholders	Increased number of informed people

8.5. Overgrowing of agricultural land (B5)

	Specific barrier	Why	Solution	How to tackle the barrier	With who
B5	SB51: Overgrowing of agricultural land.	Higher costs of agricultural activities, land owners are not connected, low interest for agricultural activities, in addition many agricultural areas have been overgrown, but they are still kept in the cadastre as agricultural crops (arable land, pasture, meadow), which prevents access to funding through the rural development fund for the conversion of degraded forests.	Development of forest owner's land and land owner's cooperative that would offer common forest/land management – lower costs of operations and higher income, including the timely update of the cadastre.	A9: Raise awareness of the need to remove the biomass on extensive overgrowth.	Agricultural advisory service, RDA, Private forest owners. Regional administration, County, Agriculture and forestry advisory agency Local companies dealing with biomass. Geodetic agency.
				A10: Enable a simple and free conversion of cadastral culture into the forest culture and to Implement the Cadastre Act.	

	SO	SP	AT	Specific actions	Term			Responsible to face the costs	Expected result	Indicator
					ST	MT	LT			
B5	SO6	SB51	A9	SA91: Preparation of plan for re-establishing agricultural land and cultural landscape to protect and preserve specific habitats and species of Natura 2000 network.		X		Local communities, RDA	Plan for long term management of agricultural land	Prepared plan
				SA92: Pilot/demonstration actions: Find the proper pilot area on the base of the highest interest of forest owners. Organise the whole wood chain from production of biomass to heating and re-establishment of agriculture land use. Pilot actions must pull other actors in the project area to join into the process later. Do not forget on volunteering, especially on removing cut biomass from the field.			X	RDA	Demonstration areas	No. of demonstration sites
				SA93: Implementation of plan on larger scale: Share the results (workshops= from pilot actions to all stakeholders in the project area. Communication with all stakeholders, involvement all players into action, step by step, according to the weakest link. Enlarge volunteering on whole project area.			X	Land owners	Re-establishment agricultural land and cultural landscape to protect and preserve specific.	Surfaces (ha) of re-establishment agricultural land.
			A10	SA10.1: Punishment if the situation on the plot/parcel is different from the condition entered in the cadastre.	X			Geodetic agency	Cadastre Update	Regular Cadastre Maintenance
				SA10.2: Provide access to finance for conversion or other works in forestry if it is the case such overgrown agricultural land is already been included in the Forestry Management Plans: Amendments to the Rulebook on the Use of Rural Development Measures to enable these parcels/plots to access financing works.	X			Ministry of Agriculture and of the rural development and EU funds, Forestry enterprises.	Amendments to relevant Rules	Having of the right to finance forest works on such particles

CODES OF THE SOCIAL BARRIERS

BARRIERS

- B1: The fragmented ownership of private forest, the inadequate organisation and the lack of interest in biomass production
- B2: Reticence to use biomass in protected areas: production function is not balanced with conservation function
- B3: Lack of information and knowledge about opportunities of sustainable biomass use
- B4: Lack of integration of entire forest bioenergy value chain
- B5: Overgrowing of agricultural land

Specific barriers

- SB1.1: High fragmentation of private forest ownership
- SB2.1: Poor acceptance of forest biomass extraction, especially in protected areas
- SB3.1: Small forest owners have low interest in active forest management; they do not see any financial benefits in biomass production
- SB3.2: Poor awareness of the opportunities deriving from the exploitation of forest biomass for the production of energy and heat due to the lack of information and knowledge on the part of society.
- SB4.1: Unawareness of possibilities for organisational and cooperative structures establishment, increased by the unwillingness for cooperation.
- SB4.2: Lack of users (bigger and smaller)
- SB5.1: Overgrowing of agricultural land.

ACTIONS

- A1: Activities aimed at facilitating the development of forest owners associations in order to reduce operating costs and improve forest management
- A2: Raising awareness of the need of updating the GIS layers linked mainly with the cadastre.
- A3: Information and awareness activities on forest management and biodiversity protection addressed to the local community.
- A4: Establishment and consolidation of forest and land owners cooperative; forest owners association; forest and land owner's cooperative.

- A5: Support to small projects for local actors along biomass supply chains.
- A6: Information and dissemination activities on the environmental and economic benefits that could derive from the development of the forest-wood energy supply chains at local level, through a tactical level communication plan – training and awareness – based on a working group.
- A7: Establishment and consolidation of forest owners association; forest and land owner's cooperative and to support to small projects for local actors along biomass supply chains.
- A8: Co-financing the cost of supplying biomass boilers and education on the benefits of using biomass
- A9: Raise awareness of the need to remove the biomass on extensive overgrowth.
- A10: Raise awareness of the need to update the cadastre and to enable a simple and free conversion of cadastral culture into the forest culture.

Specific actions

- SA1.1: Awareness, information and training activities for forest owners for promoting the establishment of associations/consortia: foster the entrepreneurial culture and cooperation benefits.
- SA1.2: Workshops on the Benefits of Using Biomass.
- SA2.1: Homogenization of the cartographic layers
- SA2.2: Workshops to modify/implement the Cadastre Act.
- SA3.1: Information seminars and awareness-raising activities on the topic of the sustainable management of forest areas: dissemination.
- SA4.1: Identification of key person to lead the entity: Support the establishment of cooperative, encourage members, finding funds for start-up, encourage local communities.
- SA5.1: Awareness rising of potential consumers and producers of biomass about possibilities for preparation of projects: Finding appropriate project programs to include the issue of biomass consumption and production in it. Preparation of projects for the biomass consumption and finding sources for co-financing.
- SA6.1: Dissemination of the monitoring results of correct forestry interventions carried out in other comparable forest areas: effects on the environmental components.
- SA6.2: Animation of local and regional development stakeholder's private forest owners and legal entities: presentation of the situation on the demand and biomass supply market in the area.
- SA6.3: Information seminars and workshops on the environmental and economic benefits that derive from the development of forest-wood energy supply

chains at local level; active communication with forest owners and with the main stakeholders.

- SA6.4:** Presentation of best practices adopted in other contexts at European and national level.
- SA6.5:** Development of a micro demonstration supply chain through the involvement of all key actors.
- SA6.6:** Communication plan for forest owners, forest industries, biomass consumers and public entities in rural areas.
- SA7.1:** Presentation of opportunities for forest owners' associations, among other also in biomass production and marketing.
- SA7.2:** Identification of key person to lead the FOA: Make unformal and formal consolidations in local formal and unformal societies, to choose the best leader for the FOA.
- SA7.3:** Presenting opportunities for the consumption of biomass within the study area.
- SA7.4:** Forest owners education: Connecting forest owners – organization of workshops, events. Identify stakeholders in the biomass chain.
- SA8.1:** Co-financing of the cost of purchasing biomass boilers
- SA8.2:** Education on the benefits of using biomass: Workshops
- SA9.1:** Preparation of plan for re-establishing agricultural land and cultural landscape to protect and preserve specific habitats and species of Natura 2000 network.
- SA9.2:** Pilot/demonstration actions: Find the proper pilot area on the base of the highest interest of forest owners. Organise the whole wood chain from production of biomass to heating and re-establishment of agriculture land use. Pilot actions must pull other actors in the project area to join into the process later. Do not forget on volunteering, especially on removing cut biomass from the field.
- SA9.3:** Implementation of plan on larger scale: Share the results (workshops= from pilot actions to all stakeholders in the project area. Communication with all stakeholders, involvement all players into action, step by step, according to the weakest link. Enlarge volunteering on whole project area.
- SA10.1:** Punishment if the situation on the plot/parcel is different from the condition entered in the cadastre.
- SA10.2:** Provide access to finance for conversion or other works in forestry if it is the case such overgrown agricultural land is already been included in the Forestry Management Plans: Amendments to the Rulebook on the Use of Rural Development Measures to enable these parcels/plots to access financing works.

ECONOMIC BARRIERS

8.6. Low profitability in forest operations for biomass extraction and logistics (B6)

	Specific barriers	Why	Solutions	How to tackle the barrier	With who?
B6	SB6.1: Low profitability of biomass production and low economic convenience of forestry activities carried out in protected areas, mainly aimed at conserving forest resources.	High labor costs which often entail costs that exceed economic returns (low stupage)- inadequate machinery, low openness affect the high total cost of biomass production in these areas, making difficult to create economically sustainable forest-wood-energy supply chains.	To promote the spread of initiatives aimed at increasing the economic value of forest resources, reducing the cost of biomass production.	<p>A11: Using the Fund of forest eco-system services that co-finance economically unsustainable works in forestry and Rural development that fund the conversion of degraded and damaged forests. Co-finance the installation of smaller boilers. Establishment of biomass collection centers that will primarily be used by local users</p> <p>A12: Initiatives aimed at increasing the economic value of forest resources (enhancing forest resources as an opportunity for entrepreneurial activities related to the short wood supply chain.</p>	Forests owners; Regional administration; Agriculture and forestry advisory agency; Local companies deadling with biomass; Universities/Research Institutions in partnership with the Management body of protected areas, Forest enterprises, Local Action Group (LAG), Local Development Agency.

	SO	SB	AT	Specific actions	Term			Responsible to face the costs	Expected result	Indicator
					ST	MT	LT			
B6	SO1 SO2SO7	SB6.1	A11	SA11.1 Experimental survey for the assessment of the payment of ecosystems services (PES) provided by forest (quantification of the economic value of ecosystem services).		X	X	Universities/Research Institutions.	Lauching of research projects and activities addressed to the assessment of PES.	Number and budget of research projects addressed to the assessment of PES.
				SA11.2: Informative meetings to boost the participation of forest owners, both public and private, in the Rural Development Programme (RDP) calls.	X			Management body of protected areas.	Organisation of informative meetings to boost the participation in the RDP calls.	N1 of org ⁿ ized information meetings and number of involved parties.
				SA11.3: Information meetings in the territory to promote the opportunities offered by the Measure 8.6 of the 2014-2020 RDP.	X			Regional administration/Management body of protected areas.	Organisation of information meetings to promote the opportunities offered by the Measure 8.6 of the 2014-2020 RDP.	Number of realized meetings.
			A12	SA12.1: Increased effort to promote opportunities and options when applying.	X			Regional administration, forest Enterprises...	A larger number of informed stakeholders.	Increased number of informed people.
				SA12.2: Specific trainings for creating applications and collecting the necessary documentation.	X			Regional administration, forest enterprises...	A large number of trained stakeholders.	Increasing the number of people capable of personally compiling applicatons.
				SA12.3: Active help when writing applications.	X			Regional administration, forest enterprises...	More applications.	Increase % of fund utilization. Increase the number of applications.

8.7. A high investments costs in biomass heating systems (B7)

	Specific barriers	Why	Solutions	How to tackle the barrier	With who
B7	SB7.1: Lack of knowledge on wood biomass heating costs (policy makers) and existing not amortised heating systems in the buildings yet.	In many public buildings liquefied petroleum gas (LPG) or heating oil is still used for heating. Households, in rural areas, are still using the wood biomass for heating as large share of local people own forest or they buy wood from local producer. In the time of crisis, some of the households also changed other energy sources for heating wood biomass.	To reach 80% of the energy needs for heating covered with wood fuels by switching public building to alternative energy sources, through the promotion on the creation of public-private partnerships for the energy needs supply (energy source, investment costs) and using the possibilities to receive a subsidy for switching to alternative energy sources.	A13: Promoting and support for wood biomass use in public buildings.	Municipalities (and local energy agencies), RDA.

	SO	SB	AT	Specific actions	Term			Responsible to face the costs	Expected result	Indicator
					ST	MT	LT			
B7	SO1, SO2, SO7, SO9	SB71	A13	SA13.1: Identification of priority buildings for switching to wood biomass use: Increase the need for biomass supply (switching public building consumption to alternative energy sources).		X		RDA, CAF, municipalities	Increased biomass production. Increased local use of biomass in public buildings.	80% of the energy needs for heating covered with wood fuels.

CODES OF THE ECONOMIC BARRIERS

BARRIERS

- B6: Low profitability in forest operations for biomass extraction and logistics.
- B7: A high investment costs in biomass heating systems.

Specific barriers

- SB6.1: Low profitability of biomass production and low economic convenience of forestry activities carried out in protected areas, mainly aimed at conserving forest resources.
- SB7.1: Lack of knowledge on wood biomass heating costs (policy makers) and existing not amortised heating systems in the buildings yet.

ACTIONS

- A11: Using the Fund of forest eco-system services that co-finance economically unsustainable works in forestry and Rural development that fund the conversion of degraded and damaged forests. Co-finance the installation of smaller boilers. Establishment of biomass collection centers that will primarily be used by local users
- A12: Initiatives aimed at increasing the economic value of forest resources (enhancing forest resources as an opportunity for entrepreneurial activities related to the short wood supply chain.
- A13: Promoting and support for wood biomass use in public buildings.

Specific actions

- SA11.1 Experimental survey for the assessment of the payment of ecosystems services (PES) provided by forest (quantification of the economic value of ecosystem services.
- SA11.2: Informative meetings to boost the participation of forest owners, both public and private, in the RDP calls).
- SA11.3: Information meetings in the territory to promote the opportunities offered by the Measure 8.6 of the 2014-2020 RDP.
- SA12.1: Increased effort to promote opportunities and options when applying.
- SA12.2: Specific trainings for creating applications and collecting the necessary documentation.

SA12.3: Active help when writing applications.

SA13.1: Identification of priority buildings for switching to wood biomass use: Increase the need for biomass supply (switching public building consumption to alternative energy sources).

LEGISLATIVE-ADMINISTRATIVE BARRIERS

8.8. Excessive and complex administrative procedures for forest management plans in protected areas (B8)

	Specific barriers	Why	Solutions	How to tackle the barrier	With who
B8	SB81: Small forest owners.	Forest owners are not active or interested in the management as they do not see any financial benefits on it.	Motivating forest owners for implementation of silvicultural measures. Establishment of local forest owner association.	A14: Establishment of forest owners association; forest and land owners' cooperative.	Chamber of Agriculture and Forestry, Forest Service, Ministry of Agriculture, Forestry and Food.
	SB82: Poor funding of investments in forests.		Increase of available funds for financing investments in forests.	A15: Providing increased resources for investments in forests.	
	SB83: The lack of Forest Management plans at territorial (i.e. subregional level) and long-times for their approval.	The absence of the Forest Management Plan (FMP) (at the territorial and local level) entails long-times and complex procedures for obtaining the permits necessary to make the forestry interventions.	Promote the drafting of Forest Management Plans at territorial level also through the use of the RDP funds.	A16: Drafting of the Forest Management Plans at territorial level, aimed at the maintenance and enhancement of silvo-pastoral resources and at the coordination of forestry activities.	Regional authorities, Management body of protected areas, Municipalities, Higher education and research (Universities), Associations, ONG LAG, forest enterprises, associations and owners.
			Promote the drafting of Forest Management plans at local level and strengthening the synergies and coordination among the public bodies responsible for the issue of the necessary authorizations.	A17: Promote Agreements for the establishment of associations between public and private actors, in order to favour the drafting of Forest Management plans at local level and commit the Regional Authorities to the simplification of the authorization procedures for the execution of forestry interventions.	
	SB84: Overlapping of protective figures.	Excessive and sometimes contradictory environmental regulations.	Models/Guidelines.	A18: Development and definition of Models/Guidelines for the management of zones and species to be annexed to the Forestry Resources Management Plan, as a basis for management projects.	Managers of protected areas, public administrations, professional colleges.

	SO	SB	AT	Specific actions	Term			Responsible to face the costs	Expected result	Indicator
					ST	MT	LT			
B8	SO1 SO4 SO7 SO9	SB81	A14	SA14.1: Support in establishment of FOA (legal procedure, administrative procedure, elections of formal bodies of the associations, kick-off meeting...)	X			Costs for establishment of association (members fee)	Forest owners have higher interest in forest management.	No. of forest owners starting with active forest management.
		SB82	A15	SA15.1: Communication with forest owners: Workshops with forest owners (their associations and cooperatives) to promote biomass wood chain, informal communication on local level.		X		RDA, CAF, municipalities	Increased biomass production	80% of the energy needs for heating covered with wood fuels
				SA15.2: Communication with biomass consumers: Connecting wood biomass producers and consumers – establishment of biomass wood chain.		X		RDA, CAF, municipalities	Increased local use of biomass in public buildings	
		SB83	A16	SA16.1: Establishment of a technical Panel aimed at defining the procedures for the drafting of the Forest Management Plans at the territorial level, as foreseen in the Guidelines of the national law	X			Reginal Administration	Drafting of the Forest Managements plans at territorial level shared by the public institutions and the local community.	Forest area included in a protected area on which there is a FMP at territorial level.
			A17	SA17.1: Establishment of a technical panel with the aim of promoting partnership agreements between public and private actors for the drafting of the FMPs in the context of the sub-measure 16.8 of the RDP programme.		X		Management body of protected areas	Promotion of the cooperation between private and public actors involved in the forest sector for improving the planning of forest resources at local level. Increasing the knowledge of the local community on the funds of the RDP and on the available resources to support the planning and the forest enterprises and in particular the short wood energy chain. Favouring the establishing of simplified procedures for the approval of the FMPs at local level.	Number of information and training initiatives. Number of participants who attended the technical panels.
				SA17.2: Establishment of a technical panel with the aim of defining simplified procedures for getting the clearance necessary for the approval of the FMPs.		X		Management body of protected areas	Raising awareness of the advantages for the enterprises deriving from the drafting and implementation of FMPs for the execution of interventions in the forests included in the protected areas	Number of Local Authorities that stipulate agreements for the definition of simplified procedures for the approval of the FMPs Number of Agreements between public and private bodies for the drafting of the FMPs at local level.
			A18	SA18.1: Working group to establish guidelines for clear criteria and indicators for the affection of technical management plans in the protected natural areas.		X		Regional administration	Consensual guideline with normative character	Published in the Official journal.
		SB84								

CODES OF THE LEGISLATIVE-ADMINISTRATIVE BARRIERS

BARRIERS

B8: Excessive and complex administrative procedures for forest management plans in protected areas.

Specific barriers

SB81: Small forest owners.

SB82: Poor funding of investments in forests.

SB83: The lack of Forest Management plans at territorial (i.e. subregional level) and long-times for their approval.

SB84: Overlapping of protective figures.

ACTIONS

A14: Establishment of forest owners association; forest and land owners' cooperative.

A15: Providing increased resources for investments in forests.

A16: Drafting of the Forest Management Plans at territorial level, aimed at the maintenance and enhancement of silvo-pastoral resources and at the coordination of forestry activities.

A17: Promote Agreements for the establishment of associations between public and private actors, in order to favour the drafting of Forest Management plans at local level and commit the Regional Authorities to the simplification of the authorization procedures for the execution of forestry interventions.

A18: Development and definition of Models/Guidelines for the management of zones and species to be annexed to the Forestry Resources Management Plan, as a basis for management projects.

Specific actions

SA14.1: Support in establishment of FOA (legal procedure, administrative procedure, elections of formal bodies of the associations, kick-off meeting...).

SA15.1: Communication with forest owners: Workshops with forest owners (their associations and cooperatives) to promote biomass wood chain, informal communication on local level.

- SA15.2: *Communication with biomass consumers.* Connecting wood biomass producers and consumers – establishment of biomass wood chain.
- SA16.1: Establishment of a technical Panel aimed at defining the procedures for the drafting of the Forest Management Plans at the territorial level, as foreseen in the Guidelines of the national law.
- SA17.1: Establishment of a technical panel with the aim of promoting partnership agreements between public and private actors for the drafting of the FMPs in the context of the sub-measure 16.8 of the RDP programme.
- SA17.2: Establishment of a technical panel with the aim of defining simplified procedures for getting the clearance necessary for the approval of the FMPs.
- SA18.1: Working group to establish guidelines for clear criteria and indicators for the affection of technical management plans in the protected natural areas.

TECHNICAL BARRIERS

8.9. Limited technical skills in forest SMEs for harvesting and logistics (B9)

	Specific barriers	Why	Solutions	How to tackle the barrier	With who?
B9	SB9.1: Scarce presence and limited technical skills of forest companies operating in the protected areas.	The low level of mechanization of forestry activities and the limited technical skills of forestry enterprises hinder the establishment of technically efficient forest wood local supply chains.	Promote the dissemination of knowledge and increase the technical skills necessary for the development of wood supply chains.	A19: Increase the technological innovation of the companies involved in the wood-energy supply chain.	Regional administration, Forestry enterprises, Management body protected areas, CCO, LAG, Strategy for Internal Areas, Entrepreneurs and Trade associations.
	SB9.2: Inadequate training of forest workers and inadequate specific skills of public and private managers in the field of forest resources planning and management.	The inadequate specialization of forest workers leads to a low productivity of forestry work. The lack of specific skills by public and private managers causes the delay or the failure to draft the forest management plans.	Filling the training and technical skills gap of forest operators and staff.	A20: Increase the technical skills of forestry personnel and operators.	Regional administration, Forest workers, Regional officials and managers, Trade unions, Universities, Management body of protected areas.

	SO	SB	AT	Specific actions	Term			Responsible to face the costs	Expected result	Indicator
					ST	MT	LT			
B9	SO3, SO5	SB9.1	A19	SA19.1: Establishment of the regional register of regional forest enterprises: to register forest enterprises to strengthen the level of specialization of personnel and technological innovation in the forestry sector.		X		Regional administration.	Establishment of the register of forest enterprises.	Number of forest enterprises registered.
				SA19.2: Fair events with demonstration activities of means and techniques used by enterprises specialized in the forest sector in protected areas.		X		Management body of protected area.	Organization of fair events with forest enterprises involved in the forest-wood supply chain.	Number of realized events, number of involved companies and number of participants.
		SB9.2	A20	SA20.1: Training activities addressed to forestry operations (forest workers and personnel responsible for the planning and management of forest areas).		X		Regional administration.	Organizing of training activities addressed to forestry operators.	Number of organized training activities and number of people involved.
				SA20.2: To include in the staff of public and private enterprises graduate students in forest science and related disciplines.			X	Regional administration/Management body of protected areas.	The inclusion of graduate students in forest science and related disciplines in the staff of public and private enterprises.	Number of public tenders and number of available posts.

8.10. Lack of clarity and harvesting operations and standardised regulation for forest management plans in protected areas (B10)

	Specific barriers	Why	Solutions	How to tackle the barrier	With who?
B10	SB10.1: Lack of consensus on technical criteria and technical responsibilities among different professional groups (foresters, biologists, environmental...).	New proposals for a new regulation do not have the support of forestry professionals.	Elaborate Technical Instruments for Forest Management (TIFM) with a scientific-technical basis approved by forest experts and that is an instrument with normative character.	A21: Definition and professionalization of the Technical Instructions for Forest Management.	Forestry professional association and public administration.
	SB10.2: Absence of consensual guidelines.	Lack of clarity in the control and sanction process.	Consensual and singles guidelines to control the forestry activities. To define criteria for sanctions and stoppages.	A22: Development of consensual and single guidelines to control quantitative and qualitative forestry activities by environmental agents in the execution of the works (clearing, thinnings and final cuts).	Association of environmental agents and Public administration, Forest public & private owners.

	SO	SB	AT	Specific actions	Term			Responsible to face the costs	Expected result	Indicator
					ST	MT	LT			
B10	SO1, SO4	SB10.1	A21	SA21.1: Restart the established working group to reach a consensus among the professional groups involved.	X			Regional administration.	Consensus among collectives of the TIFM instructions.	Agreement signed by all groups.
				SA21.2: Anchoring definitive consensus instructions in normative.		X		Regional administration.	Drafting instructions for publications in Official Journal.	TIFM published in the Official Journal.
		SB10.2	A22	SA.22.1: Working group to prepare new clear guidelines, agreed on a quantitative and qualitative level.	X			Regional administration.	Drafting guidelines for publication	Guidelines published in the Official Journal.

CODES OF THE TECHNICAL BARRIERS

BARRIERS

- B9: Limited technical skills in forest SMEs for harvesting and logistics
- B10: Lack of clarity and harvesting operations and standardised regulation for forest management plans in protected areas

Specific barriers

- SB9.1: Scarce presence and limited technical skills of forest companies operating in the protected areas.
- SB9.2: Inadequate training of forest workers and inadequate specific skills of public and private managers in the field of forest resources planning and management.
- SB10.1: Lack of consensus on technical criteria and technical responsibilities among different professional groups (foresters, biologists, environmental...).
- SB10.2: Absence of consensual guidelines

ACTIONS

- A19: Increase the technological innovation of the companies involved in the wood-energy supply chain.
- A20: Increase the technical skills of forestry personnel and operators.
- A21: Definition and professionalization of the Technical Instructions for Forest Management.
- A22: Development of consensual and single guidelines to control quantitative and qualitative forestry activities by environmental agents in the execution of the works (clearing, thinnings and final cuts).

Specific actions

- SA19.1: Establishment of the regional register of regional forest enterprises: to register forest enterprises to strengthen the level of specialization of personnel and technological innovation in the forestry sector.
- SA19.2: Fair events with demonstration activities of means and techniques used by enterprises specialized in the forest sector in protected areas.
- SA20.1: Training activities addressed to forestry operations (forest workers and personnel responsible for the planning and management of forest areas).
- SA20.2: To include in the staff of public and private enterprises graduate students in forest science and related disciplines.

- SA21.1: Restart the established working group to reach a consensus among the professional groups involved.
- SA21.2: Anchoring definitive consensus instructions in normative.
- SA.22.1: Working group to prepare new clear guidelines, agreed on a quantitative and qualitative level.

9. ANNEXES

9.1. CROATIA

Partners Involved: Nature Park Velebit and Zadar County
Javna ustanova „Park prirode Velebit“ i Zadarska županija

Pilot areas involved: Nature Park Velebit, Nature Park Telašćica, Nature Park Vransko Jezero

Report prepared by: Nature Park Velebit and Zadar County; Javna ustanova „Park prirode Velebit“ i Zadarska županija

9.1.1. INTRODUCTION

[CRO] U sklopu projekta ForBioEnergy - Forest Bioenergy in the Protected Mediterranean Areas (Šumska biomasa u zaštićenim mediteranskim područjima), dva su projektna partnera iz Republike Hrvatske: Zadarska županija (PP7) i javna ustanova Park prirode Velebit (PP8). Pilot područja spomenutih partnera u sklopu su Ličko-senjske i Zadarske županije. Unutar svakog od tri hrvatska nacionalna parka (pilot područja) postoji po jedno pilot područje: Park prirode Telašćica, Park prirode Vransko jezero i Park prirode Velebit. Područje parka prirode Velebit rasprostire se na teritoriju oba projektna partnera, ali većinskim dijelom unutar granica Ličko-senjske županije- pilot područje PP8. Ovaj izvještaj sadrži dvije isporučevine - Akcijski plan za novi regulatorni okvir i Dopuštene rute u zaštićenim područjima, završene od strane oba partnera. Akcijski plan opisuje djelatnosti koje će relevantna tijela implementirati u nacrt novog regulatornog okvira, dok je cilj označavanja dopuštene rute, ukloniti administrativne i tehničke zapreke koje sprječavaju i ograničavaju upotrebu biomase u zaštićenim područjima. Sukladno Zakonu o zaštiti prirode, u nacionalnim parkovima, ekonomske i druge aktivnosti su dopuštene, osim ako ne ugrožavaju njihove osnovne karakteristike i strukture. To ne predstavlja dodatna ograničenja, ako se šumskim područjima upravlja prema Planu gospodarenja šumama koji je u skladu sa svim relevantnim zakonima i obvezama NATURA-e 2000.

Kako je navedeno u prethodno izrađenom dokumentu projekta FORBIOENERGY - Forest Bioenergy in the Protected Mediterranean Areas, „Osnovna analiza stanja proizvodnje/potencijala biomase na području Ličko-senjske županije s naglaskom na zaštićeno područje Parka prirode Velebit“ (PO T 3.2), područje Ličko-senjske županije je prostor koji uključuje velik postotak zaštićenih područja, to je područje krša i velikih šumskih površina. Većina šuma na području Ličko-senjske županije je u vlasništvu Republike Hrvatske, a kojima upravlja državno poduzeće Hrvatske šume d.o.o. putem dviju podružnica, Uprave šuma podružnica Senj i Uprave šuma podružnica Gospić. Hrvatske šume d.o.o. provode šumskogospodarske osnove (donose se

svakih 10 godina), glavni su akter zaštite prirode te glavni dobavljač sirovine za drvoprerađivačku industriju, opskrbu stanovnika ogrjevnim drvetom te su, u najnovije vrijeme, glavni dobavljač biomasom sagrađenih kogeneracija i tvornica peleta. Vrlo mali dio šuma je u vlasništvu privatnih šumoposjednika (4.192 ha, 3,79% privatnih šuma u Parku prirode „Velebit“). Površine privatnih šuma su najčešće enklave i poluenklave unutar državnih šuma ili se nalaze na rubovima naselja. Dio površina su napuštene livade koje se polako pretvaraju u šume. Veliki dio ovih šuma je degradiran te se na njima ne provode potrebne uzgojne mjere.

Šume koje se nalaze na području Zadarske županije, uglavnom su degradirane do stupnja šikare, gariga i makije. U samim pilot područjima živi vrlo malo ljudi, dok općine i gradovi koji se nalaze u pilot područjima broje samo oko 10000 stanovnika te postoji rastući trend depopulacije. U proizvodnji (šumske) biomase, tvrtka „Hrvatske šume“ igra važnu ulogu. Često favoriziraju velike tvrtke dajući im višegodišnje ugovore, koji često nisu transparentni, ostavljajući male proizvođače bez potrebne sirovine, odnosno ostavljajući lokalno stanovništvo bez potrebnog drva za ogrijev. Ograničavajući factor je i dobivanje sirovine – ogrijevnog drva, koje ima svoja biološka ograničenja, posebno u mediteranskim i sub-mediteranskim područjima u Republici Hrvatskoj, gdje su šume većinom nisko-produktivne i degradirane na stupanj šikare i makije. Drugi izvor biomase je biomasa iz privatnih šuma, gdje problem predstavljaju male parcele, nedosljednost katastra, nepostojanje udruga šumoposjednika, nedostatak potrebne mehanizacije, što čini ovu vrstu izvora neisplativim i naposljetku nepredvidivim. Također, zbog niske cijene rada šumskih radnika, praktički niti ne postoje tvrtke koje se bave nabavom i distribucijom biomase.

Na području Parka prirode „Velebit“ (dalje u tekstu: PP Velebit) situacija je identična najveći dio šuma koje se nalaze izvan Nacionalnih parkova su državne šume kojima upravljaju Hrvatske šume d.o.o., putem svojih Uprava šuma podružnice Senj i Gospić. Na području PP Velebit najvrijednije šume s gospodarskog stanovišta nalaze se pretežno na području kojim upravlja Uprava šuma Senj, te je i otvorenost ovih šuma najveća (pod otvorenosću šuma podrazumijeva se izgrađenost šumskih putova koji omogućuju pristup šumama radi provođenja uzgojnih mjera, zaštite od požara te eksploatacije).

Izgradnja kogeneracija i tvornica peleta povećala je interes za korištenjem biomase kao sirovine u proizvodnji električne i toplinske energije te proizvodnji peleta. Potražnja za biomasom u stalnom je porastu. To je dovelo do toga da se već sad (ožujak 2018.), iako većina planiranih postrojenja za proizvodnju energije nije izgrađena te stavljena u funkciju, na tržištu osjeća nedostatak sirovine. Taj nedostatak najviše osjeća lokalno stanovništvo i male tvrtke uključene u proizvodnju ogrijevnog drveta. Ovaj nagli nedostatak izazvan

je i sve većim izvozom peleta i ogrjevnog drveta, koji je u 2018. godini ugrozio opskrbu lokalnog tržišta (podaci dobiveni intervjuom s potrošačima i MSP na području Županije). Na lokalnom tržištu osjeća se nedostatak peleta te nedostatak ogrjevnog drveta. Malim tvrtkama koje proizvode ogrjevno drvo za lokalno tržište, glavni dobavljač sirovine (Hrvatske šume d.o.o.) ne isporučuje unaprijed ugovorene godišnje količine što izaziva potrese u njihovom redovnom poslovanju (manji prihodi, smanjena likvidnost, otpuštanje radnika te smanjen kapacitet za ulaganja u modernizaciju proizvodnje).

Nedostatak biomase na tržištu, posljedično, dovodi do porasta cijene biomase i cijene ogrjevnog drveta i peleta. Također je povećana i nekontrolirana sječa šuma u privatnim šumama, ali i u dijelu državnih šuma. Nedostatak biomase, ukoliko se nastavi, dovest će do ugrožavanja poslovanja postojećih kogeneracija i tvornica peleta. Tome značajno doprinosi neistražen, ali prisutan utjecaj klimatskih promjena, kao i problema s radnom snagom u šumarstvu.

Klimatske promjene svoj neposredan učinak imaju u promjeni mikroklimе. Opažanjem i praćenjem podataka Državnog hidrometeorološkog zavoda se može zamijetiti da su, na području Ličko-senjske županije pa tako i u PP Velebit, u zimskom razdoblju, temperature više od uobičajenih, manje je snijega te više kišnih dana, jače je izraženo djelovanje vjetrova. Također ljetni period nastupa nakon vrlo kratkog proljeća s izraženijim visokim temperaturama, manje padalina te manje ili više izraženim sušama. Sve to dovodi do povećanog rizika od pojave elementarnih nepogoda poplava, bujica, suša i šumskih požara.

Vezano za radnu snagu u šumarstvu. Dio radne snage zaposlene u šumarstvu, prije svega drvosječe, našao je mogućnost bolje zarade u zemljama Europske unije te će Hrvatske šume d.o.o. morati promijeniti svoju politiku plaća (ili nadoknaditi nedostatak radne snage s radnom snagom iz drugih zemalja) ukoliko žele zadržati radnike u proizvodnji odnosno u eksploataciji šume i provođenju šumskouzgojnih radova.

Do sada, obzirom na dobivene projektne zadatke nije posebno razmatrano postojanje minsko sumnjivih područja koje se nalaze na šumskim područjima, uz nekadašnju crtu razgraničenja s okupiranim teritorijem Republike Hrvatske (posljedica Domovinskog rata 1991.-1995. godine). Najveći dio tih površina su šume, čije se površine razminiravaju iz sredstava EPFRR/EAFRD-a provedbom PRR RH 2014.-2020. (Mjera 5. tip operacije 5.2.2 „Razminiranje poljoprivrednog zemljišta“). Dana 1. siječnja 2014. godine, ukupna površina minski sumnjivih područja iznosila je 613,6 km² (PSI-2), koja se proteže preko teritorija od 91 jedinice lokalne samouprave u 12 županija. Struktura zemljišta onečišćenog minama, eksplozivnim napravama i neeksplozivnim ubojnim sredstvima uglavnom se sastoji od šuma i šumskog zemljišta (81%), preostalih 19% (11.000 ha), čine poljoprivredne površine. Unutar

poljoprivrednih površina, 55% čine obradive površine, a ostatak su livade i pašnjaci. Prema veličini minski sumnjivog prostora, Ličko-senjska je najzagađenija, a prema broju ukupno evidentiranih mina druga je po redu (iza Vukovarsko-srijemske županije) sa 16.103 registriranih mina. Prema podacima Hrvatskog centra za razminiranje (dalje u tekstu: HCR) na području Ličko-senjske županije, krajem 2017. godine, bilo je 138,6 km² minski sumnjivih površina (čak 30% ukupnih minsko-sumnivih područja u Republici Hrvatskoj).

Stoga, u cilju stabilizacije postojeće situacije, nužno je povećati trenutne kapacitete proizvodnje biomase.

[EN] Within the project FORBIOENERGY - Forest Bioenergy in the Protected Mediterranean Areas, there are two Project Partners from the Republic of Croatia: Zadar County (PP7) and Public Institution Velebit Nature Park (PP8). Pilot areas of the mentioned partners are within the Lika-Senj and Zadar County. There is one Pilot area within each of the three Croatian Nature Parks (Pilot Areas): Telascica Nature Park, Vransko Lake Nature Park and Velebit Nature Park. Area of Velebit Nature Park stretches between both Project Partners, with the larger part being within administrative borders of Lika-Senj County - Pilot Area of PP8. This report consists of two deliverables - Action plans for a new regulatory framework and permit route in the protected areas, finished by both Project Partners. Action plans describe the actions to be implemented by the relevant bodies for the drafting of a new regulatory framework and permit route aimed to remove administrative and technical barriers that hinder the use of biomass in the protected areas. According to the Nature Protection Act, in nature parks, economic and other activities are allowed, unless they endanger its essential characteristics and structure. This does not constitute additional constraints if the forest area is managed under the Forest Management Plans that are in compliance with all relevant NATURA2000 laws and obligations.

As stated in the previously drafted document of the project FORBIOENERGY - Forest Bioenergy in the Protected Mediterranean Areas, „Baseline review / Situational analysis of production / biomass potential of Lika-Senj County - focusing on the Nature park “Velebit” protected areas (PO T 3.2), the Lika-Senj County is a space that includes a large percentage of protected areas. This is the territory of karst and with large forest areas. Most of the forests in the Lika-Senj County are owned by the Republic of Croatia and are managed by the state-owned company Hrvatske šume d.o.o. (Croatian Forests L.t.d) through its two subsidiaries, the Management Administrations Senj and Gospić (Senj branch and the Gospić branch office). Hrvatske šume d.o.o., which implement a forest management plans (for every 10 years), are the main actors of nature protection and are the main supplier of raw materials for the wood processing industry, supply of fuel to the firewood and are, at the most recent, the main supplier of biomass-built cogeneration and pellet factories. Very small part of the forest is owned by private forest owners (4,192 ha, 3.79% of

forests in the Nature Park „Velebit“). Private forests are mostly enclaves and semi-enclaves within the state forests or located at the edge of the settlement. Parts of the area are abandoned meadows that are slowly transforming into forests. Much of these forests have been degraded and do not undertake the necessary cultivation measures. In terms of wood usage, private forest owners are, in most cases, not market-oriented and use wood mainly for the production of firewood for personal use. Private forests are characterized by lower productivity and fragmentation.

The forests within pilot areas of Zadar County are mostly degraded to the stage of coppice or thickets and maquis. There are very few people living in the pilot areas themselves, and within the municipalities and cities that are located in one of the pilot areas, there are about 10,000 inhabitants living with pronounced depopulation. In the production of (forest) biomass, Croatian forests ltd play a major role, however, they favor larger companies by multi-annual contracts, often not transparent, leaving smaller wood processors without the necessary raw material or local population without the necessary heating wood. The limiting factor is the possibility of obtaining raw material - fire wood, which has its biological limitations, especially in the Mediterranean and Sub-Mediterranean areas of the Republic of Croatia where the forests are mostly low-productive and degraded to the stage of coppice or thicket. The next source of biomass is biomass from private forests, but there is the problem of small particles, discrepancy of cadastre, lack of forest owners' association, lack of adequate mechanization, making this source unprofitable and unpredictable. Also, due to the low prices of works, there are virtually no companies involved in the acquisition and distribution of biomass.

In the area of Nature Park "Velebit" (hereafter: NP Velebit), the situation is the same for the majority of forests outside the National Parks, which are the **state forests managed by the Hrvatske šume d.o.o., through its Management Administrations in Senj and Gospić (branches).** In the area of NP Velebit, the most valuable forests, from the economic standpoint, are predominantly in the area managed by the Forest Administration Senj, and the openness of these forests is the largest (under the open forest it is meant the construction of forest roads that allow for access to forests for the implementation of cultivation measures, fire protection and exploitation).

The construction of the cogeneration and the pellet plant increased interest in the use of biomass as a raw material in the production of electrical and thermal energy and pellet production. Demand for biomass is steadily increasing. This led to the fact that already (March 2018), although most of the planned power generation plants were not built and put into operation, the market felt a lack of raw material. This disadvantage is felt most by the locals and small businesses involved in the production of firewood. This extreme shortage has also been caused by the ever-increasing export of pellets and firewood, which in 2018 threatened to supply local markets (data obtained by interviews with consumers and SMEs in the County). In the local market, there

is a shortage of pellets and a shortage of fuel wood. Main supplier - Hrvatske šume d.o.o. **do not deliver pre-contracted annual quantities** for small companies which are producing firewood for the local market, consequently causing earthquakes in their regular business (lower incomes, reduced liquidity, layoffs and reduced capacity for investments in modernization of production).

The lack of biomass in the market, consequently, leads to a rise in the price of biomass and the price of fuel wood and pellets. There is also an increase in uncontrolled harvesting of forests in private forests, but also in the part of state forests. The lack of biomass, if continued, will endanger the operations of existing cogeneration and pellet factories.

This is significantly contributed to the unexplored but present influence of climate change as well as the problems with the workforce in forestry. Climate change has its immediate effect in changing microclimate. Observing and monitoring the data of the National Hydrometeorological Institute (Državni Hidrometeorološki Zavod) **may be noted that, in the Lika-Senj County** and also in the NP Velebit, during the winter period, temperatures are higher than normal, less snow and more rainy days, also, winds are stronger than in previous period. Also the summer period occurs after a very short spring with higher temperatures, less precipitation and more or less pronounced droughts. All this leads to an increased risk of natural disasters, floods, droughts and forest fires.

Regarding the workforce in forestry part of the workforce employed in forestry, first of all - loggerheads, has been able to make better profits in EU countries, **therefore, Hrvatske šume d.o.o. have to change their salary policy** (or overcome the lack of labor force from other countries) if they want to keep workers in production or exploitation of forests and forestry works.

So far, the projected tasks have not specifically considered the existence of mine suspected areas in the forest areas, with the previous line of demarcation with the former Occupied Territory of the Republic of Croatia (as a result of the Homeland War 1991.-1995). Most of these areas are forests, whose surfaces are decomposed from the EAFRD through the implementation of Rural Development Programme (hereinafter: RDP) Croatia 2014-2020. (Measure 5, type of operation 5.2.2 "Demining of agricultural land"). At January 1st 2014, the total surface area of mine suspected areas was 613.6 km² (PSI-2), extending across the territory of 91 units of local self-government in 12 counties in Croatia. The structure of mine-contaminated land (incl. explosive devices and unexploded ordnance) consists mainly of forest and forest land (81%), and the remaining 19% (11,000 ha) is agricultural land. Within agricultural areas, 55% make arable areas, while the rest are meadows and pastures. According to the size of the mine suspected area, Lika-Senj County is the most polluted,

and according to the total number of mines recorded is the second (behind Vukovar-Srijem County) with 16,103 registered mines. According to the data of the Croatian De-mining Center (hereinafter: HCR) in the Lika-Senj County, at the end of 2017, there were 138.6 km² of mine suspected areas (up to 30% of total mine suspected areas in the Republic of Croatia).

Therefore, in order to stabilize the existing situation, it is necessary to increase existing biomass production capacities.

9.1.2. OBJECTIVES

The key message (vision) of PP7 Action Plan is to enable sustainable production of biomass in the area of "Velebit Nature Park", which should contribute to increasing economic activities in the Park and increasing the incomes of the local population.

This Action Plan needs to be applied immediately as the main solutions to overcoming the barriers can only be achieved in the long term period. The reason for this is that the problems that arise in these areas are equal to the one on state level and many socioeconomic measures are needed to improve this situation. Certain solutions can be implemented at the Zadar County level and these results can be expected short-term to mid-term.

General objective

- Sustainably increase of biomass production in the area of NP Velebit and Lika-Senj County, which should contribute to increasing economic activities in the Park and increasing the incomes of the local population.
- Deeper analysis of the observed barriers in the short (local) chains of biomass and proposition of the improvements in procedures, processes and legislation to successfully overcome the barriers with the aim of achieving a faster, simpler and more cost-effective chain of biomass gaining in protected areas (Zadar County)

Specific objectives (SO)

SO1: Increase the openness of economic state-owned forests managed by Hrvatske šume d.o.o. in the area of NP Velebit and Lika-Senj County.

SO2: Enhance the management of private forests in NP Velebit and Lika – Senj County.

SO3: Increase the security of people and property, with the preservation of biodiversity in the forest areas of NP Velebit and Lika-Senj County.

SO4: The retention of the population

SO5: Raising the quality of forests, improving forest openness, purchasing appropriate mechanization, setting up an exclusive collection center for forest and agricultural biomass, and creating an annual biomass quota by the Croatian forests that the local population / small producers can buy, possibly at a cheaper price.

SO6: To raise awareness of the local population that it is necessary to update the state of cadastre, facilitate a simpler / cheaper process of updating the cadastre, encourage maintenance of its land and encourage the establishment of forestry associations.

Strategic goals must be defined according to SMART principles, namely: Specific, Measurable, Achievable, Relative and Realistic and Timed Defined or Real Time Frame, short-term (up to 1 year), middle-aged (2-5 years) and long-term (over 5 years) (Timed / Time-bounded).

Sustainable increase in biomass production in the Nature Park „Velebit“ was imposed as a necessity for approving the construction of several cogeneration plants and pellet factories. At the same time, it is obvious that the openness of state-owned forests decreases in the direction of the north to the south. For each economic unit, a forest management plan is made (with a deadline of 10 years). Investments in the construction of forest roads for years have not been implemented in accordance with the adopted forest management principles, since, up to the promotion of the use of renewable energy sources (including biomass), the supply was higher than demand.

For the purpose of achieving the general objective, three specific objectives have been defined. It is necessary to define a series of activities whose realization will contribute to the realization of specific goals. This process will benefit SMART access.

Guide, ie, instructions for the implementation of project activities *3.6.1 Action plan for a new regulatory framework and permit route in the protected areas*, was prepared by the responsible project partner: Association of Forest Communes of the Comunitat Valenciana (AMUFOR); the task of this sub-chapter is to answer a few questions:

- *For what and when does the Action Plan implement?*
- *What is expected to be achieved in the short-medium and long term?*
- *What is the expected effect?*
- *What is the expected impact? The impact is traduced in results.*

(SO1) Increasing the openness of state-owned forests, given the built capacities and those at different stages of realization, is rapidly becoming a fundamental development priority. If this problem is not accessed in a good

manner it is possible to expect a deepening of the crisis in the biomass demand market.

Therefore, it is necessary to make a study of the justification for the opening of state-owned forests in the area of NP "Velebit" (as well as for other, important forests of the Lika-Senj County). These studies would determine the dynamics of forest opening on economic units by first opening forest in those economic units that will justify the construction costs in a shorter period of time and allow the exploitation of larger quantities of biomass. At the same time, the construction of new forest roads increases the accessibility of forests for cultivation measures as well as reducing the risk of forest fires (as the greatest threat to forest communities, habitats and biodiversity reduction). **Hrvatske šume d.o.o. can implement all planned activities** for achieving results (in the implementation of Specific Objective 1), through the competent Forestry Offices. **The founder of the study should be Hrvatske šume d.o.o. in** direct cooperation with the Public Institution "Nature Park Velebit". Studies should also be developed in consultation with local development stakeholders, forest owners and entrepreneurs - woodworking.

(SO2) To improve the management of private forests, there are many predispositions which, ten years ago or 15 years ago, there was no National Forestry Policy and Strategy.

Today, within the National Advisory Service, technical assistance to forest owners has been established, new rural development actors are also accredited LAGs (except local self-government units of the County). There are specific resources for improving forestry, not only from national sources such as the Forestry Fund, but also the European funds available through the RDP Croatia 2014-2020. (EAFRD). This Action Plan can be implemented in the form of a Program for Improving the Management of Private Forests (hereinafter: **Program**) **at the level of the Public Institution „Nature Park Velebit“ and / or the** County, with several different activity bearers and sources of funding. Benefits from the realization of the program would be, first of all, owners of private forests and the local biomass market. The NP Velebit would have a direct benefit because it would increase the traditional economic activity within the protected area. Increasing economic activity would contribute to reducing the depopulation trends and further economic erosion of the County area (one of the most underdeveloped in the Republic of Croatia).

(SO3) Increasing the security of people and property, with the preservation of biodiversity in forest areas by demining mined areas or mine-suspected areas is the basic developmental imperative of the NP Velebit and Lika-Senj County. The problem is recognized at the national and international level. The demining process has been going on for years (up to date, the County has spent 134 million HRK (EUR 17.9 million). On April 5th,

2018., the Lika-Senj County signed with HCR a new demining agreement of 90 million HRK (EUR 12 million) that plans to demine another 26 km² (90% of forest and 10% of agricultural land, all in the NP Velebit), which is extremely important for the safety of the people and visitors of the area as well as the development of agriculture and forestry.

(SO4) The retention of the population: In the short to mid-term: Approval of larger work quota in forestry for foreign workers, which would allow the remaining companies at least the possibility of using their full capacity. Namely, even the Croatian Forests as the main supplier of biomass have a problem with the planned realization due to the lack of labor force or companies engaged in felling and wood extraction. The current 260 quotas in 2017 for agriculture and forestry is too small. More intensive efforts in promoting co-financing / financing of measures for the field of agriculture and forestry through the Rural Development Fund by the County and the Advisory Service. Active assistance of County authorities in the preparation of the documentation necessary for applying for tenders of the Rural Development Fund in the form of free issuance of necessary documents, expert help in writing, and even writing applications. Other measures that the County can implement aiming at retaining the population in rural areas (financing the renovation of houses, building the necessary infrastructure, encouraging the development of crafts, etc.).

In the long term: Encouraging industrial development in areas near the pilot area through tax relief, building the necessary infrastructure, etc. Continue with all the activities from the short to mid-term time frame.

(SO5) Raising the quality of forests, improving forest openness, purchasing appropriate mechanization, setting up an exclusive collection center for forest and agricultural biomass, and creating an annual biomass quota by the Croatian forests that the local population / small producers can buy, possibly at a cheaper price.

Regarding the lack of biomass, the following is expected:

In the short to medium term: Increase the investments in machinery in forestry, forest quality and forest openness through rural development funds and Fund for forest eco-system services. Encouraging the use (co-financing) of small biomass boilers that are more suitable for one institution, possibly two adjacent. Reaching agreement on the establishment of several smaller biomass collection centers (on larger islands, near Zadar and in the hinterland). Raising awareness and launching a procedure for approving the use of subsidised diesel for harvesting and extraction in forestry, which would partially reduce production costs. Launch a campaign to establish an obligation for Croatian forests to separate part of the annual felling for the needs of the local population / local users with smaller boilers / small woodworkers / production of biomass energy at the local level.

In the long-term: Establishment of a biomass collection centers in which the population will be able to give / sell their biomass residues (prunes, old furniture, other hard biomaterials, residues from cleaning of areas during the conversion, construction, etc.), which will be used for selling the woodchips for the introduced smaller boilers. This is in accordance with the principles of circular bioeconomic, so that the product retains its value for as long as possible, in this case adding another "cascade" in that cascading economy. **Introduction of subsidised diesel (called "blue diesel" in Croatia) for cutting and extraction work in forestry.** The introduction of an obligation for Croatian forests to sell part of the floor at the local level (smaller users / smaller boilers).

(SO6) To raise awareness of the local population that it is necessary to update the state of cadastre, facilitate a simpler / cheaper process of updating the cadastre, encourage maintenance of its land and encourage the establishment of forestry associations.

Short-term to mid-term: Raising awareness of the need for updating the cadastre. Introducing additional land clearing incentives (such as PP Velebit, which promotes grassland maintenance), which would provide additional biomass and achieve better control over plant invasive species that is an increasing problem in these areas. Encouraging the establishment and establishment of forest owners' associations, this would give the owners better opportunities when searching for contractors, sales of wood or obtaining of mechanization within the association.

- Prohibit further splitting of forest particles below a certain size (eg 0.5 ha)

Long term: Continue the efforts of the County to reconcile cadastre and land registry with new geodetic survey. Introducing the obligation to clean up your land by introducing certain fines in the form of taxes, etc. in case of non-compliance. This would reduce the risk of fire and result in additional biomass because many areas that overgrown are listed in cadastre as Plowland, Grassland or Pasture. Also, it would slow down / prevent the spread of various invasive plant species that pose an increasing problem in these (NATURA 2000) areas.

Table 1. Detecting activities according to SMART approach, according to specific goals

Objective	Description	Expected Result	Possibility of Implementation	Relevance	Time frame/years
Increasing the openness of state-owned forests (SO 1)	In order to implement forest management units, forest openness needs to be improved, thereby increasing the implementation of forest-growing measures, reducing fire risk, illegal, uncontrolled felling, and increasing biomass production	A study on the opening of forest roads, which will determine the construction priorities according to established parameters (protective and economic); Built and equipped new forest roads; Improvement of the monitoring system for the protection and sustainable use of forests; Increasing visitor and tourist use of forests and forest areas	For the implementation of this measure it is necessary to: Provide support from the Ministry of Agriculture and the Managing Board of Hrvatske šume d.o.o. in order to allow increased funding from the general forest functions fund; Provide support from the Ministry of Environmental Protection and Energy in developing a surveillance system for protected areas	Forest-based foundations of a single economic unit; Nature Park „Velebit“ Management Plan	Long term (> 5 years)

Objective	Description	Expected Result	Possibility of Implementation	Relevance	Time frame/years
Enhance the management of private forests (SO 2)	A number of activities provide support to forest owners in creating conditions for improving private forest management	Establish Associations of Private Forest Owners; Make private forest cadastre; Inform them about the possibilities financing of breeding measures; Develop appropriate forest management principles	These activities can be carried out in cooperation with the Advisory Service, LAGs in the County, and other stakeholders in rural development	RDP Croatia 2014-2020. National Forestry Policy and Strategy, Objective: To encourage the consolidation of private forest holdings and the establishment of private forest owner associations	Long term (> 5 years)
Increasing the safety of people and property, preserving biodiversity in forest areas (SO 3)	Provide technical and financial preconditions for demining mine suspected forest areas in this and subsequent programming period	Include demining of mine suspected areas under forests and forest land in RDP for the next programming period; Provide the other necessary capacities for demining (preliminary demining projects, human capacity and equipment)	For the implementation of this activity it is necessary to provide resources for the demining of forests in the territory of the Republic of Croatia during this and the next programming period	RDP Croatia 2014.-2020.; Croatian De-mining Centre	Long term (> 5 years)

9.1.3. SWOT ANALYSIS

Based on the studies / analyzes that have been developed so far in the project FORBIOENERGY - Forest Bioenergy in the Protected Mediterranean Areas, by the Public Institution Nature Park "Velebit" and Zadar County as the project partners, this SWOT analysis of biomass production can be used in the protected areas.

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> – Established state-owned forest management system in the County and Nature Park "Velebit"; – Large production potential in the area of NP Velebit and the County – Biomass market demand at the local level; – Possibility of export of finished products and the possibility of buying energy at subsidized prices; – Rural Development Program of the Republic of Croatia for the period 2014-2020 contains measures to improve forestry; – Available Funds for Forest General Purpose for Carrying Forest Works in forests on karst - Considering that the Zadar County itself is the responsible body for the implementation of the project in the Zadar County, it has a significant political, administrative and legislative power through its representatives (Mayor, County Council, Heads of Offices) to implement certain solutions outlined in this Action Plan or at least to influence bodies that need to start the necessary changes and policies. – As County, it can more effectively support certain networking needs for better implementation of measures. 	<ul style="list-style-type: none"> – Biomass demand tendency is higher than the capacity or existing production capacity; – Insufficient openness of commercial (economic) forests leads to less biomass production; – Illegal forest harvesting indirectly endangers the biodiversity of protected areas; – Private forests are shriveled and lower productivity than state-owned forests; – Private forest owners are unorganized; – All private forests do not have a forest management plan; – Big demand for biomass increases the risk of uncontrolled (illegal) harvesting in private and state forests - There is a potential lack of political and administrative power to initiate necessary changes or to influence other bodies in a higher state structure. - Insufficient staffing to achieve effective transfer of knowledge or administrative and counseling assistance. – Possible unwillingness to initiate the implementation of certain "unpopular" measures (eg. introduction of certain penal provisions in plans and ordinances at county level for uncleared land, introduction of additional obligations for certain areas, etc.) – Possible financial stability is insufficient for: <ul style="list-style-type: none"> - financing / refunding certain costs incurred for conversion of land from agricultural to forest or for reconciliation of land cadastre - support / fund certain projects derived from this project, examples of good practice, etc. - encouraging the introduction of new technologies in the process of energy recovery from biomass (new mechanization, new boilers, etc.)

OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> – Usage of RDP Croatia measure for forestry development (beneficiaries: SME, private forest owners, Hrvatske šume d.o.o.); – Available Funds for Forest General Purpose for forest roads; – Using other European sources of funding for sustainable development projects and circular economics - Possibility of financing the construction of forest roads, restoration of burned or degraded stands or co-financing of aquisition of necessary forest mechanization through the Fund for Rural Development. - Opportunity to co-finance the execution of works in the forestry through the Fund for forest eco-system services. - Involvement of Croatian Agriculture and Forestry Advisory Agency in projects that can encourage private forest owners to use funds from the Fund for forest eco-system services or Rural Development through training, workshops and other counseling channels. – Implementation of smaller systems for obtaining energy from biomass. 	<ul style="list-style-type: none"> – Natural disasters as a result of climate change can cause damage to forests; – Insufficient national level support and regulatory framework for the implementation of quality and continual monitoring of the use of forest resources and protected areas; – Illegal forest harvesting indirectly endangers the biodiversity of protected areas; – Increased demand can negatively affect biodiversity in protected areas; – Better wages in forestry in other EU countries are the cause of leaving the workforce; – Disproportion to decision making, adoption and implementation of strategic business decisions in forestry; – Monopolistic position of Hrvatske šume d.o.o. d.o.o. in the biomass market; – The existence of mine-suspected areas, especially in the south-eastern part of NP Velebit, and in the different areas of the County (the so-called former borderline with occupied territories) - Possible unwillingness to initiate the implementation of certain "unpopular" measures at the state level (eg introducing taxes for untreated and overgrown land). - The pressure of geodetic lobbies to prevent free change of cadastre culture in cadastre / updating of ownership or proprietary data. - There is a lack of financial resources for cofinancing / incentives due to reduction of obligatory payment to the Fund for forest eco-system services. – Uninformation / disinterest of the local population for the use of incentives, biomass etc.

9.1.4. IMPACT

This report is done according to the Guide, ie, instructions for the implementation of project activities *3.6.1 Action plan for a new regulatory framework and permit route in the protected areas*; the task of this sub-chapter is to answer a few questions:

- For what and when does the Action Plan implement?
- What is expected to be achieved in the short-medium and long term?
- What is the expected effect?
- What is the expected impact? The impact is traduced in results.

(SO - Specific Objective 1) Increasing the openness of state-owned forests, given the built capacities and those at different stages of realization, is rapidly becoming a fundamental development priority. If this problem is not accessed in a good manner it is possible to expect a deepening of the crisis in the biomass demand market. Therefore, it is necessary to make a study of the justification for the opening of state-owned forests in the area of NP "Velebit" (as well as for other, important forests of the Lika-Senj County). These studies would determine the dynamics of forest opening on economic units by first opening forest in those economic units that will justify the construction costs in a shorter period of time and allow the exploitation of larger quantities of biomass. At the same time, the construction of new forest roads increases the accessibility of forests for cultivation measures as well as reducing the risk of forest fires (as the greatest threat to forest communities, habitats and **biodiversity reduction**). Hrvatske šume d.o.o. can implement all planned activities for achieving results (in the implementation of Specific Objective 1), through the competent Forestry Offices. The founder of the study should be **Hrvatske šume d.o.o. in direct cooperation with the Public Institution "Nature Park Velebit"**. Studies should also be developed in consultation with local development stakeholders, forest owners and entrepreneurs - woodworking.

(SO - Specific Objective 2) To improve the management of private forests, there are many predispositions which, ten years ago or 15 years ago, there was no National Forestry Policy and Strategy.

Today, within the National Advisory Service, technical assistance to forest owners has been established, new rural development actors are also accredited LAGs (except local self-government units of the County). There are specific resources for improving forestry, not only from national sources such as the Forestry Fund, but also the European funds available through the RDP Croatia 2014-2020. (EAFRD).

This Action Plan can be implemented in the form of a Program for Improving the Management of Private Forests (hereinafter: Program) at the level of the Public Institution „Nature Park Velebit“ and / or the County, with several

different activity bearers and sources of funding. Benefits from the realization of the program would be, first of all, owners of private forests and the local biomass market. The NP Velebit would have a direct benefit because it would increase the traditional

economic activity within the protected area. Increasing economic activity would contribute to reducing the depopulation trends and further economic erosion of the County area (one of the most underdeveloped in the Republic of Croatia).

(SO - Specific Objective 3) Increasing the security of people and property, with the preservation of biodiversity in forest areas by demining mined areas or mine-suspected areas is the basic developmental imperative of the NP Velebit and Lika-Senj County. The problem is recognized at the national and international level. The demining process has been going on for years (up to date, the County has spent 134 million HRK (EUR 17.9 milion).

On April 5th, 2018., the Lika-Senj County signed with HCR a new demining agreement of 90 million HRK (EUR 12 million) that plans to demine another 26 km² (90% of forest and 10% of agricultural land, all in the NP Velebit), which is extremely important for the safety of the people and visitors of the area as well as the development of agriculture and forestry.

(SO - Specific Objective 4) The retention of the population

In the short to mid-term: Approval of larger work quota in forestry for foreign workers, which would allow the remaining companies at least the possibility of using their full capacity. Namely, even the Croatian Forests as the main supplier of biomass have a problem with the planned realization due to the lack of labor force or companies engaged in felling and wood extraction. The current 260 quotas in 2017 for agriculture and forestry is too small. More intensive efforts in promoting co-financing / financing of measures for the field of agriculture and forestry through the Rural Development Fund by the County and the Advisory Service. Active assistance of County authorities in the preparation of the documentation necessary for applying for tenders of the Rural Development Fund in the form of free issuance of necessary documents, expert help in writing, and even writing applications. Other measures that the County can implement aiming at retaining the population in rural areas (financing the renovation of houses, building the necessary infrastructure, encouraging the development of crafts, etc.).

In the long term: Encouraging industrial development in areas near the pilot area through tax relief, building the necessary infrastructure, etc. Continue with all the activities from the short to mid-term time frame.

(SO - Specific Objective 5) Raising the quality of forests, improving forest openness, purchasing appropriate mechanization, setting up an exclusive collection center for forest and agricultural biomass, and creating an annual

biomass quota by the Croatian forests that the local population / small producers can buy, possibly at a cheaper price

Regarding the lack of biomass, the following is expected:

In the short to medium term: Increase the investments in machinery in forestry, forest quality and forest openness through rural development funds and Fund for forest eco-system services. Encouraging the use (co-financing) of small biomass boilers that are more suitable for one institution, possibly two adjacent. Reaching agreement on the establishment of several smaller biomass collection centers (on larger islands, near Zadar and in the hinterland). Raising awareness and launching a procedure for approving the use of subsidised diesel for harvesting and extraction in forestry, which would partially reduce production costs. Launch a campaign to establish an obligation for Croatian forests to separate part of the annual felling for the needs of the local population / local users with smaller boilers / small woodworkers / production of biomass energy at the local level.

In the long-term: Establishment of a biomass collection centers in which the population will be able to give / sell their biomass residues (prunes, old furniture, other hard biomaterials, residues from cleaning of areas during the conversion, construction, etc.), which will be used for selling the woodchips for the introduced smaller boilers. This is in accordance with the principles of circular bioeconomic, so that the product retains its value for as long as possible, in this case adding another "cascade" in that cascading economy. **Introduction of subsidised diesel (called "blue diesel" in Croatia) for cutting and extraction work in forestry.** The introduction of an obligation for Croatian forests to sell part of the floor at the local level (smaller users / smaller boilers).

(SO - Specific Objective 6) To raise awareness of the local population that it is necessary to update the state of cadastre, facilitate a simpler / cheaper process of updating the cadastre, encourage maintenance of its land and encourage the establishment of forestry associations.

Short-term to mid-term: Raising awareness of the need for updating the cadastre. Introducing additional land clearing incentives (such as PP Velebit, which promotes grassland maintenance), which would provide additional biomass and achieve better control over plant invasive species that is an increasing problem in these areas. Encouraging the establishment and establishment of forest owners' associations, this would give the owners better opportunities when searching for contractors, sales of wood or obtaining of mechanization within the association.

- Prohibit further splitting of forest particles below a certain size (eg 0.5 ha)

Long term: Continue the efforts of the County to reconcile cadastre and land registry with new geodetic survey. Introducing the obligation to clean up your land by introducing certain fines in the form of taxes, etc. in case of non-compliance. This would reduce the risk of fire and result in additional biomass because many areas that overgrown are listed in cadastre as Plowland,

Grassland or Pasture. Also, it would slow down / prevent the spread of various invasive plant species that pose an increasing problem in these (NATURA 2000) areas.

9.1.5. RESPONSABILITIES

Guide, ie, instructions for the implementation of project activities 3.6.1 Action plan for a new regulatory framework and permit route in the protected areas, prepared by the responsible activity partner: Association of Forest Municipalities of the Comunitat Valenciana (AMUFOR), the task of this sub-chapter is to answer a few questions:

- Whom is the Action Plan addressed?
- Who is the responsible to implement it?

Due to a coordinator of the regional Action Plan is essential to ensure the implementation of the actions, Public Institution Velebit Nature Park and Zadar County will be official coordinators of the Action Plan.

A) PP7 - Depending on the proposed actions, this action plan applies either to the Zadar County or to the legislative bodies at the state level as this issue extends beyond the pilot area or the Zadar County.

The implementation of this Action Plan is primarily based on Croatian partners on the project (Zadar County, Velebit Nature Park, Agricultural Forestry Advisory Service and Natura Jadera). For certain actions it would be advisable to include the Croatian Chamber of Forestry and Wood Technology Engineers (HKISDT) as an organization that protects the interests of Croatian forestry and is responsible for issuing licenses for forestry works. These organizations / bodies that dealing with forestry from multiple angles (protection, ecological, economic, etc.), can pose the so-called "critical mass" required for the launch of certain (legislative) actions or for effective efforts to raise awareness of these problems.

The expected impact on the first barrier is the retention of the population in these areas, possibly the arrival of the new population and increased investment in agriculture and forestry through the use of funds from the Fund of forest eco-system services and Rural Development.

The impact of the Action Plan on the second barrier is raising the quality of forests, improving forest openness, purchasing appropriate mechanization, setting up an exclusive collection center for forest and agricultural biomass, and creating an annual biomass quota by the Croatian forests that the local population / small producers can buy, possibly at a cheaper price.

The impact of the action plan on the third barrier is to raise awareness of the local population that it is necessary to update the state of cadastre, facilitate a simpler / cheaper process of updating the cadastre, encourage maintenance of its land and encourage the establishment of forestry associations.

B) PP8 - In consultations with individual engineers in Hrvatske šume d.o.o. information was gained that, so far, the forest road management was left to decisions that were not economically based. The construction of forest roads depended on the demand for biomass, which has become current and secured funds for their construction only in the last ten years, which, in the karst area, is largely financed by the general forest function fund.

There is no systematic approach to the construction of forest roads in the areas managed by Hrvatske šume d.o.o.

Based by the previously drafted document of the project FORBIOENERGY - Forest Bioenergy in the Protected Mediterranean Areas, „Baseline review/Situational analysis of production / biomass potential of Lika-Senj County - focusing on the Nature park “Velebit” protected areas (PO T 3.2) it is clear that after the first attempts to organize private forest owners, which failed, any further directed action towards improving their productivity was halted. This is partly due to the lack of interest of forest owners themselves.

Lack of funds to finance activities to improve private forest management and the fact that the results in improving private forest management can only be expected after a long period of years have been the most important factors that led to the present situation that, in addition to available resources and increased demand for biomass, the situation in private forests in the area of NP Velebit and Lika-Senj County does not improve.

For both barriers detected here, there are no pilot projects that could be examples of good practice (case studies) on which further activities could be planned.

However, the detected lack of biomass supply that will, in the next five-year period, require immediate access to solving or reducing these barriers. This will save existing investments in biomass plants in the County, as well as open jobs, and will continue the already started economic activity.

9.1.6. PROPOSED NEW REGULATORY FRAMEWORK AND PERMIT ROUTE IN THE PROTECTED AREAS OF THE REPUBLIC OF CROATIA

B1. *SOCIAL BARRIER*: DEPOPULATION OF RURAL AREAS

Specific barrier	Why	Solution	How to tackle the barrier	With who
B11 Lack of Labor Force	Reduced ability to harvest timber	Increase the number of available labor force	A1: Approval of larger work quota in forestry for foreign workers. A2: Increased use of the Fund of forest eco-system services and Rural Development fund. A3: Other general socio-economic measures for retention of the population	Zadar County, Croatian government, Croatian chamber of forestry and wood processing ingeneers (HKIŠDT)
B12 Lack of users (bigger and smaller)	Little opportunities at local level for the use of biomass	Encourage the installation of biomass boilers	A4: Co-financing the cost of supplying biomass boilers. A5: Education on the benefits of using biomass	Zadar County , Fund for environmental protection and energy efficiency (FZOEU)

B2. *ECONOMIC BARRIER*: LACK OF WOOD MASS

Specific barrier	Why	Solution	How to tackle the barrier	With who
B21 Mostly degraded forest areas	Degraded areas to the stages of thicket or macchia where amount of wood is notmeasured or coppices with too low timber stocks	Increase the quality of these forest areas	A6: Using the Fund of forest eco-system services that co-finance economically unsustainable works in forestry and Rural development that fund the conversion of degraded and damaged forests. A7: Co-finance the installation of smaller boilers. A8: Establishment of biomass collection centers that will primarily be used by local users.	Private forests owners Zadar County, Croatian agriculture and foretry advisory agency (HPŠSS)
B22 low feasibility of biomass production	High labor costs, inadequate machinery, low openness affect the high total cost of biomass production in these areas	Reduce the cost of biomass production	A9: Using the Rural Development Fund that finances the procurement of machinery and road construction. A10: Introduction of the subsidied diesel for cutting and extraction works in forestry.	Private forests owners Zadar County, Croatian agriculture and foretry advisory agency (HPŠSS), Local companies dealing with biomass
B23 Existing wood for felling is already reserved	The timber foreseen for cutting in the Croatian Forests system has already been reserved by long-term contracts with large woodprocessors	Enable local small / new woodprocessors and other local users access to this wood mass	A11: Establishment of the obligation of the Croatian forests ltd to allocate the part of the cutting mass for the needs of the local population / local users with smaller boilers / small woodworkers / production of energy from biomass at the local level	Croatian forests ltd, Croatian, Croatian Parliament, Private forests owners Zadar County, Croatian agriculture and foretry advisory agency (HPŠSS Local companies dealing with biomass.

B3. ADMINISTRATIVE-SOCIAL BARRIER: ISSUE OF FORESTS IN PRIVATE OWNERSHIP

Specific barrier	Why	Solution	How to tackle the barrier	With who
B31 Small size of forest particle/ estate	Low feasibility of management on small surfaces	Timely update of the cadastre.	<p>A12: Raise awareness of the need to update the cadastre.</p> <p>A13: Modify / Implement the Cadastre Act .</p> <p>A14: Encourage the establishment of associations through raising awareness of positive sides and active advisory assistance.</p> <p>Prohibit further splitting of forest particles below a certain size (eg 0.5 ha)</p>	Private forests owners Zadar County, Croatian agriculture and forestry advisory agency (HPŠSS), Local companies dealing with biomass, Croatian geodetic agency
B32 non-updated of cadastre	The failure of the implementation of probate proceedings leaving the dead ancestors or those who have long emigrated as owner, which prevents legal management	Establishment of private foresters' associations.	<p>A12: Raise awareness of the need to update the cadastre.</p> <p>A13: Conduct the Cadastre Act.</p>	Private forests owners Zadar County, Croatian agriculture and forestry advisory agency (HPŠSS), Local companies dealing with biomass, Croatian geodetic agency
B33 overgrowing of agricultural land	Many agricultural areas have been overgrown, but they are still kept in the cadastre as agricultural crops (arable land, pasture, meadow), which prevents access to funding through the rural development fund for the conversion of degraded forests	Timely update of the cadastre.	<p>A12: Raise awareness of the need to update the cadastre.</p> <p>A13: Conduct the Cadastre Act.</p> <p>A15: Enable simple and free conversion of cadastral cultures into the forest culture.</p> <p>A16: Introduce tax on uncultivated / cultivated land and additional incentive for clearing that land</p>	Croatian forests ltd, Croatian, Croatian Parliament, Ministry of finance, Private forests owners Zadar County, Croatian agriculture and forestry advisory agency (HPŠSS) Local companies dealing with biomass, Croatian geodetic agency

B4. LACK OF AWARENESS OF BIOMASS MARKET AND INSUFFICIENCY OPEN STATE-OWNED FORESTS

Specific barrier	Why	Solution	How to tackle the barrier	With who
B41: Insufficiently open state-owned forests in the area of NP Velebit and the whole Lika-Senj County	In the previous period, the production of biomass was higher than the demand for cogeneration and pellet factories. Part of the forest is a mine suspected area. Lack of financial resources, lack of awareness by Hrvatske šume d.o.o. and at state level.	It is necessary to make 2 studies of the opening of state-owned forests for the area of the min. Forest Administration Gospić (for a protected area and non-protected area), which will assess the costs and directions of opening, dynamics, sources of funding and future revenues resulting from the increased opening of state economic forests. After the preparation and adoption of these studies, it is necessary to approach reinforced forest roads, based on the priorities defined by the Study.	<p>A17 Awareness of biomass market imbalance in the area of NP Velebit: Presentation of the situation in the demand and biomass supply market in the Lika-Senj County to Hrvatske šume d.o.o.</p> <p>A18 The process of opening state-owned forests</p> <p>--</p> <p>In order to overcome this obstacle it is necessary to present the existing supply and demand situation for biomass Hrvatske šume d.o.o. (Managing Board) independent of the middle management who manages regional affiliates. The situation was reached by the data collection method presented in 3.2 Basic analysis ...</p> <p>It would also be necessary to present the result of this research to the Association of pellet producers, briquettes and wood biomass CROBIOM, because investments of some of their members are jeopardized due to possible lack of raw material (biomass) in the earliest future.</p>	<p>The main stakeholders in this process should be representatives of cogeneration and pellet factories and small companies producing firewood (individually or through the umbrella organization), Managing Board of Hrvatske šume d.o.o., representatives of the Croatian Chamber of Commerce, representatives of the Ministry of Agriculture and representatives of protected areas in Lika-Senj County.</p> <p>These stakeholders represent both interested parties (the supply and demand market), while representatives of public institutions managing the protected areas also play a role due to the potential consequences of open forest without specific estimates of well-being and risk (fire hazard, uncontrolled and illegal logging, uncontrolled visits and similar.).</p>

B5. INADEQUATE AND POOR MANAGEMENT IN BIOMASS PRODUCTION

Specific barrier	Why	Solution	How to tackle the barrier	With who
B51: Inadequate and poor management of private forests in the area of NP Velebit	Because of the abandonment of villages and inadequate traditional practices of private forests, they are neglected, poorly productive and fragmented, and forest owners are unorganized and poorly educated and team-mated to carry out breeding works.	It is necessary to create a Private Forest Management Program in the area of NP Velebit and / or the Lika-Senj County because the problem is similar and for small areas it would be desirable to merge all measures under one Program (although in the following table are divided in two subsections). The Program should specify the main measures for the individual measures, deadlines and sources of funding.	<p>A19 Awareness of biomass market imbalance in the area of NP Velebit and Lika-Senj County</p> <p>A20: Drafting of the Program for the Improvement of Private Forests in the area of NP Velebit and Lika-Senj County</p> <p>A21: Implementation of the Program for the Improvement of Private Forests in the area of NP Velebit and Lika-Senj County</p> <p>--</p> <p>It is necessary to carry out an assessment of the needs and to familiarize it with its results to all the defined stakeholders. Also, the situation with private forests is to be presented as part of the solution to the problem of the lack of raw material (biomass) used as raw material by cogeneration, pellet factories and fuel wood producers.</p>	<p>It is necessary to present the idea / draft of the Program to rural administrative organizations involved in rural areas development (LSU, County, LAGs, Advisory Service, Public Institutions for Nature Protection), forest owners, hunters associations and representatives of tourist communities; in targeted discussions, on several workshops, it is difficult to discuss specific and general issues relevant to all multisectoral stakeholders. It would be optimal for the Program to be adopted at the level of the Lika-Senj County (County Assembly / Council) and the Managing Board of the Public Institution "Nature Park Velebit".</p> <p>Potrebno je predstaviti ideju/nacrt Programa administrativnim organizacijama koje se bave ruralnim razvojem (JLS, Županija, LAG-ovi, Savjetodavna služba, Javne ustanove za zaštitu prirode) te šumoposjednici, ovlaštenici prava lova, te predstavnici turističkih zajednica; u ciljanim i zajedničkim raspravama, na više održanih radionica, teba se raspraviti specifična i opća pitanja važna za sve multisektorske dionike. Optimalno bi bilo da se navedeni Program usvoji na razini Ličko-senjske županije (Županijska skupština/Vijeće) i Upravnog vijeća JU PPV.</p>

B6. LACK OF DETERMINATION OF MINE SUSPECTED AREAS

Specific barrier	Why	Solution	How to tackle the barrier	With who
B61: Endangering the safety of people and property and biodiversity for the mine-suspected areas of forests	Mines and explosive devices are the result of warfare in forest areas. The area of NP Velebit was an area of intense war activities and the former line of demarcation with the Occupied Territory. Demining will enable access to the forests that are now being managed and will increase economic activity and reduce the dangers for human lives, property and biodiversity (there are also major fire hazards).	Demining of mine suspected areas (forests and forest land)	<p>A22 Demining mine-suspected areas</p> <p>--</p> <p>Provide demining funds through RDP 2014-2020. (EAFRD) for the next programming period.</p> <p>Provide the necessary technical documentation (demining plans), human resources and equipment.</p>	The main stakeholders are the Ministry of Agriculture and the Croatian De-mining Center (HCR), which will jointly design this measure during this and the next programming period (2021-2027).

SHORT CODE DESCRIPTION

SPECIFIC OBJECTIVES

- SO1: Increase the openness of economic state-owned forests managed by Hrvatske šume d.o.o. in the area of NP Velebit and Lika-Senj County.
- SO2: Enhance the management of private forests in NP Velebit and Lika – Senj County.
- SO3: Increase the security of people and property, with the preservation of biodiversity in the forest areas of NP Velebit and Lika-Senj County.
- SO4: The retention of the population
- SO5: Raising the quality of forests, improving forest openness, purchasing appropriate mechanization, setting up an exclusive collection center for forest and agricultural biomass, and creating an annual biomass quota by the Croatian forests that the local population / small producers can buy, possibly at a cheaper price.
- SO6: To raise awareness of the local population that it is necessary to update the state of cadastre, facilitate a simpler / cheaper process of updating the cadastre, encourage maintenance of its land and encourage the establishment of forestry associations.

BARRIERS

- B1: Depopulation of rural areas
- B2: Lack of wood mass
- B3: Issue of forests in private ownership
- B4: Lack of awareness of biomass market and insufficiency open state-owned forests
- B5: Inadequate and poor management in biomass production
- B6: Lack of determination of mine suspected areas

SPECIFIC BARRIERS

- SB11: Lack of Labor Force
- SB12: Lack of users (bigger and smaller)
- SB21: Mostly degraded forest areas
- SB22: Low feasibility of biomass production

- SB23: Existing wood for felling is already reserved
- SB31: Small size of forest particle/ estate
- SB32: Non-updated of cadastre
- SB33: Overgrowing of agricultural land
- SB41: Insufficiently open state-owned forests in the area of NP Velebit and the whole Lika-Senj County
- SB51: Inadequate and poor management of private forests in the area of NP Velebit
- SB61: Endangering the safety of people and property and biodiversity for the mine-suspected areas of forests

ACTIONS

- A1: Approval of larger work quota in forestry for foreign workers.
- A2: Increased use of the Fund of forest eco-system services and Rural Development fund.
- A3: Other general socio-economic measures for retention of the population
- A4: Co-financing the cost of supplying biomass boilers.
- A5: Education on the benefits of using biomass
- A6: Using the Fund of forest eco-system services that co-finance economically unsustainable works in forestry and rural development that fund the conversion of degraded and damaged forests.
- A7: Co-finance the installation of smaller boilers.
- A8: Establishment of biomass collection centers that will primarily be used by local users
- A9: Using the Rural Development Fund that finances the procurement of machinery and road construction.
- A10: Introduction of the subsidied diesel for cutting and extraction works in forestry
- A11: Establishment of the obligation of the Croatian forests ltd to allocate the part of the cutting mass for the needs of the local population / local users with smaller boilers / small woodworkers / production of energy from biomass at the local level
- A12: Raise awareness of the need to update the cadastre.
- A13: Modify / Implement the Cadastre Act
- A14: Encourage the establishment of associations through raising awareness of positive sides and active advisory assistance.
- A15: Enable simple and free conversion of cadastral cultures into the forest culture.

- A16: Introduce tax on uncultivated / cultivated land and additional incentive for clearing that land
- A17: Awareness of biomass market imbalance in the area of NP Velebit: Presentation of the situation in the demand and biomass supply market in the Lika-Senj County to Hrvatske šume d.o.o
- A18: The process of opening state-owned forests
- A19: Awareness of biomass market imbalance in the area of NP Velebit and Lika-Senj County
- A20: Drafting of the Program for the Improvement of Private Forests in the area of NP Velebit and Lika-Senj County
- A21: Implementation of the Program for the Improvement of Private Forests in the area of NP Velebit and Lika-Senj County
- A22: Demining mine- suspected areas

SPECIFIC ACTIONS

- SA1.1: Sending a request to the Croatian Employment Service and the Croatian government for bigger quotas: Approval of a larger number of working quotas for foreign workers when making the following decision (2019) or supplement of the existing for 2018 as the quota for forestry and agriculture has been completely used by the end of the first month
- SA2.1: Increased efforts to promote options for funding and options for applications
- SA2.2: Specific training for document compilation
- SA2.3: Active help with applications
- SA3.1: Financing the renovation of old houses
- SA3.2: Building the necessary infrastructure
- SA3.3: Encourage the development of craftsmanship: Non-refundable funds for founding crafts
- SA3.4: Encourage the development of craftsmanship: Reduction of various obligations towards state (taxes, etc)
- SA4.1: Co-financing of the cost of purchasing biomass boilers.
- SA5.1: Workshops on the Benefits of Using Biomass
- SA6.1: Increased effort to promote opportunities and options when applying
- SA6.2: Specific trainings for creating applications and collecting the necessary documentation

- SA63: Active help when writhing applications
- SA71: Co-financing the cost of biomass boilers.
- SA81: Development of feasibility study and location of several smaller collection centers
- SA82: Construction of collection centers
- SA91: Increased effort to promote opportunities and options when applying
- SA92: Specific trainings for creating applications and collecting the necessary documentation
- SA93: Active help when writhing applications
- SA10.1: Extension of the Government's decision to include the forestry sector in this system of indirect grants: To include a system of "blue diesel"/subsidied diesel for cutting and extracting operations, calculated per m3 of extracted wood
- SA10.2: That Croatian forests does not lower the cost of extracting timber from forests
- SA11.1: By the Government's decision to commit Croatian forests to deploy, for example, 10% of cutting wood for sale to local residents / local users with smaller boilers / small woodworkers / producers of energy from biomass at local level, possibly at a lower price
- SA12.1: Workshops to raise wareness of the necessity of updating the cadastre
- SA12.2: Introduce tax on overgrown land
- SA13.1: That the Croatian geodetic agency (CGA) automatically performs all changes in cadastre and land registry within 30 days regarding to ownership / possession
- SA13.2: Workshops to modify/implement the Cadastre Act
- SA13.3: To CGA allowe free switching of other cultures to "forest" culture
- SA.13.4: Punishment if the situation on the plot/parcel is different from the condition entered in the cadastre
- SA.14.1: Workshops to encourage the establishment of forest associations and of the necessity to update the cadastre
- SA.15.1: To CGA allowe free switching of other cultures to "forest" culture
- SA15.2: Provide access to finance for conversion or other works in forestry if it is the case such overgrown agricultural land is already been included in the Forestry Management Plans: Amendments to the Rulebook on the Use of Rural Development Measures to enable these parcels/plots to access financing of works.
- SA16.1: Introduce a subsidy/incentive to keep the land clean

- SA17.1:** Animation of Hrvatske šume d.o.o.
- SA17.2:** Animation of private, economic sector (local and regional economic development stakeholders)
- SA17.3:** Public animation
- SA18.1:** Preparation for the long-term accelerated construction of forest roads: Preparation of 2 studies on the opening of state forests: First - for the area of NP Velebit; Second - for the entire Lika-Senj County; Preparation of project documentation in accordance with the Law on Construction and Forest Road Permits defined by the mentioned studies (according to the priority system)
- SA18.2:** Construction of new forest roads in the area of PP Velebit and Lika-Senj County: Construction of forest roads in state-owned forests in the area of PP Velebit and Lika-Senj County
- SA19.1:** Animation of local and regional development stakeholders - private forest owners and legal entities (Hrvatske šume, Advisory Service, SME); Presentation of the situation on the demand and biomass supply market in the area of Lika-Senj County and PP Velebit, with possibilities of economic development that provides for improvement of private forests management
- SA20.1:** Preparation and development of Programme for NP Velebit: Appointment of an expert, multisectoral working group for the development of the Program; Implementing Public Procurement for the Supplier; Drafting the Program Proposal; Adoption of the Program at the Managing Board of the Public Institution NP Velebit
- SA20.2:** Preparation and development of Programme for Lika-Senj County (outside NP Velebit area) Appointment of an expert, multisectoral working group for the development of the Program; Implementing Public Procurement for the Supplier; Drafting the Program Proposal; Adoption of the Program at the County Council
- SA21.1:** Programme implementation in NP Velebit area: Appointment of the multi-sectoral supervisory board of the program and the performance program team; Procurement for the purpose of implementing activities defined by the Program; Monitoring and evaluation of the implementation of the activities and the program as a whole.
- SA21.2:** Programme implementation in Lika-Senj County (outside NP Velebit area): Appointment of the multi-sectoral supervisory board of the program and the performance program team; Procurement for the purpose of implementing activities defined by the Program; Monitoring and evaluation of the implementation of the activities and the program as a whole.
- SA22.1:** Programming; Preparation of project documentation: EU Funds / National Funds Insurance from Current and Next Budget Period; Developing financial instruments; Creating the necessary technical documentation (preliminary demining project)
- SA22.2:** De-mining implementation: Implementation of public procurement procedures for the performance of works; Contracting, Monitoring and Evaluation

B1. SOCIAL BARRIER: DEPOPULATION OF RURAL AREAS

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B1	SO4	SB11	A1	SA1.1 <i>Sending a request to the Croatian Employment Service and the Croatian government for bigger quotas.</i> Approval of a larger number of working quotas for foreign workers when making the following decision (2019) or supplement of the existing for 2018 as the quota for forestry and agriculture has been completely used by the end of the first month		X			500 (expressed trough cost of time for writhing the demand)	Zadar County, HKIŠDT	Approval of larger quotas	In the first year, at least 1000 permits (currently 260), and in case of fulfilling each year the increase to market satisfaction
			A2	SA2.1. Increased efforts to promote options for funding and options for applications		X			300 EUR/workshop	Zadar County, HPŠSS,	A larger number of informed stakeholders	Increased number of informed people
				SA.2.2. Specific training for document compilation		X			300 EUR/workshop	Zadar County, HPŠSS,	A large number of trained stakeholders	Increasing the number of people capable of personally compiling applications.
				SA.2.3. Active help with applications		X			300 EUR/application	Zadar County, HPŠSS,	More applications	Increase percentage of fund utilization. Increase the number of applications.

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B1	SO4	SB11	A3	SA3.1 Financing the renovation of old houses			X		10000 EUR/house	Zadar County,FZOEU	Renovation of houses in a rural area	Number of renovated houses in the rural area
				SA3.2 Building the necessary infrastructure		X			100.000 EUR/Project	Zadar County	Construction of the necessary infrastructure in the rural area	Project number for the construction of water supply, waste water collectors, etc.
				SA.3.3. <i>Encourage the development of craftsmanship</i> . Non-refundable funds for founding crafts		X			8.000 EUR/craft	Zadar County, HZZ	Encouraging the development of crafts in the rural area	Number of trades established
				SA.3.4. <i>Encourage the development of craftsmanship</i> . Reduction of various obligations towards state (taxes, etc)			X		N/A	Zadar County, Ministry of finance	Reducing taxes and other financial obligations to the state	Reduction of government grants on a monthly and annual level
		SB12	A4	SA41. Co-financing of the cost of purchasing biomass boilers.		X			co-financing 50% of value for households and 30% boiler value for companies and larger systems	Zadar County,FZOEU	A larger number of built-in boilers	Increase the number of built-in boilers on the wood chips
			A5	SA51. Workshops on the Benefits of Using Biomass		X			300 EUR/workshop	Zadar County, HPŠSS,	A larger number of informed stakeholders	Increased number of informed people

B2. ECONOMIC BARRIER: LACK OF WOOD MASS

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B2	SO5	SB21	A6	SA61. Increased effort to promote opportunities and options when applying	B11, B22	X			300 EUR/workshop	Zadar County, HPŠSS,	A larger number of informed stakeholders	Increased number of informed people
				SA62. Specific trainings for creating applications and collecting the necessary documentation	B11, B22	X			300 EUR/workshop	Zadar County, HPŠSS,	A large number of trained stakeholders	Increasing the number of people capable of personally compiling applications.
				SA63. Active help when writhing applications	B11, B22	X			300 EUR/application	Zadar County, HPŠSS,	More applications	Increase percentage of fund utilization. Increase the number of applications.
			A7	SA71. Co-financing the cost of biomass boilers.	B12	X			co-financing 50% of value for households and 30% boiler value for companies and larger systems	Zadar County, FZOEU	Higher number of built-in boilers	Increase in the number of built-in boilers on the cutter
				SA81. Development of feasibility study and location of several smaller collection centers		X			15.000 EUR	Zadar County	Feasibility study and specific location	A feasibility study and a minimum of 3 locations selected
				SA82. Construction of collection centers			X		100.000 EUR/ centre	Zadar County, FZOEU, EU fonds	Built collection centers	Number of built centers
		SB22	A9	SA91. Increased effort to promote opportunities and options when applying	B11, B21	X			300 EUR/workshop	Zadar County, HPŠSS,	A larger number of informed stakeholders	Increased number of informed people
				SA92. Specific trainings for creating applications and collecting the necessary documentation	B11, B21	X			300 EUR/workshop	Zadar County, HPŠSS,	A large number of trained stakeholders	Increasing the number of people capable of personally compiling applications.
				SA93. Active help when writhing applications	B11, B21	X			300 EUR/application	Zadar County, HPŠSS,	More applications	Increase percentage of fund utilization. Increase the number of applications.

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B2	SO5	SB22	A10	SA10.1. Extension of the Government's decision to include the forestry sector in this system of indirect grants: To include a system of "blue diesel"/subsidied diesel for cutting and extracting operations, calculated per m3 of extracted wood		X			600.000 EUR/year (Private companies are extracting app 1.500.00.m3 of wood X 069kg of gasoline/m3 X difference between regular and sufinanced gasoline price)	Croatian government	Extension of the decision on the Forestry sector (extraction / removal / export of wood)	Start using this system of indirect grants
				SA10.2. That Croatian forests does not lower the cost of extracting timber from forests		X			X	Croatian forests ltd	Keeping the same price for the works	Keeping the same price of the forestry works
		SB23	A11	SA11.1. By the Government's decision to commit Croatian forests to deploy, for example, 10% of cutting wood for sale to local residents / local users with smaller boilers / small woodworkers / producers of energy from biomass at local level, possibly at a lower price		X			X	Croatian forests ltd	Introduction of an obligation	Introduce the obligation

B3. ADMINISTRATIVE-SOCIAL BARRIERS: PRIVATELY OWNED FORESTS

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B3	SO6	SB31	A12	SA12.1. Workshops to raise wareness of the necessity of updating the cadastre	B11, B21, B22	X			300 EUR/workshop	Zadar County, HPŠS, DGU	A larger number of informed stakeholders	Increased number of informed people
				SA13.1 That the Croatian geodetic agency (CGA) automatically performs all changes in cadastre and land registry within 30 days regarding to ownership / possession		X			N/A	Croatian geodetic agency	Cadastre Update	Regular Cadastre Maintenance
			A13	SA13.2 Workshops to modify/implement the Cadastre Act	B11, B21, B22	X			300 EUR/workshop	Zadar County, HPŠS,	A larger number of informed parties. Establishment of a forestry association	A larger number of informed parties. Establishment of a forestry association
		SB32	A14	SA.14.1 Workshops to encourage the establishment of forest associations and of the necessity to update the cadastre	B11, B21, B22	X			300 EUR/workshop	Zadar County, HPŠS, Croatian geodetic agency	A larger number of informed stakeholders	Increased number of informed people
			A13	SA.13.3 To CGA allowe free switching of other cultures to "forest" culture		X			N/A	Croatian geodetic agency	Cadastre Update	Regular Cadastre Maintenance

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B3	SO6	SB33	A12.	SA.12.1. Workshops to raise wareness of the necessity of updating the cadastre	B11, B21, B22	X			300 EUR/workshop	Zadar County, HPŠS, Croatian geodetic agency	A larger number of informed stakeholders	Increased number of informed people
			A13	SA.13.4. Punishment if the situation on the plot/parcel is different from the condition entered in the cadastre		X			N/A	Croatian geodetic agency	Cadastre Update	Regular Cadastre Maintenance
			A15	SA.15.1. To CGA allowe free switching of other cultures to "forest" culture		X			N/A	Croatian geodetic agency	Cadastre Update	Regular Cadastre Maintenance
				SA15.2. Provide access to finance for conversion or other works in forestry if it is the case such overgrown agricultural land is already been included in the Forestry Management Plans: Amendments to the Rulebook on the Use of Rural Development Measures to enable these parcels/plots to access financing of works.		X			N/A	Ministry of Agriculture, HPŠSS, Ministry of the rural development and EU funds	Amendments to relevant Rules	Having of the right to finance forest works on such particles
				A12	SA12.2. Introduce tax on overgrown land			X	N/A	Ministry of Agriculture, HPŠSS, Ministry of the rural development and EU funds, Ministry of Finance	Amendments to relevant Rules and Acts	The introduction of taxes on the overgrown land
				A16	SA16.1. Introduce a subsidy/incentive to keep the land clean		X		N/A	Zadar County, Facilities for Controlling Protected Areas , Ministry of nature and environment protection	Amendments to relevant Rules, Acts and budgets	The introduction of incentive

B4. LACK OF AWARENESS OF BIOMASS MARKET AND INSUFFICIENCY OPEN STATE-OWNED FORESTS

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B4	SO1	SB41	A17	SA 17.1 Animation of Hrvatske šume d.o.o.	B2	X			1.000,00	Ministry of Environmental Protection and Energy; The Environmental Protection and Energy Efficiency Fund; Ministry of Agriculture	Increased public awareness of stakeholders about biomass market developments	Min. 3 Consultation Meetings
				SA 17.2 Animation of private, economic sector (local and regional economic development stakeholders)	B2	X			5.000,00			5 workshops with different target groups of development stakeholders and joint workshops were held
				SA17.3 Public animation	B2	X	X		10.000,00			Min. 4 informative campaigns
			A18	SA.18.1 Preparation for the long-term accelerated construction of forest roads: Preparation of 2 studies on the opening of state forests: First - for the area of NP Velebit; Second - for the entire Lika-Senj County; Preparation of project documentation in accordance with the Law on Construction and Forest Road Permits defined by the mentioned studies (according to the priority system)	B2	X	X		500.000,00	Hrvatske šume d.o.o.	Created preconditions for accelerated construction of forest roads in the area of NP Velebit and Lika-Senj County	2 studies on the opening of state forests: First - for the area of NP Velebit; Second - for the entire Lika-Senj County; evidence of consultation with development stakeholders; The number of roads for which the project documentation was created and the obtained permit
				SA18.2 Construction of new forest roads in the area of PP Velebit and Lika-Senj County : Construction of forest roads in state-owned forests in the area of PP Velebit and Lika-Senj County			X	X	It is not possible to evaluate, depending on the needs defined by the Studies (A 2.1); (cca up to EUR 20 million)	Ministry of Agriculture (MA for RDP, Croatia)	Increased openness of state-owned forests in the area of PP Velebit and Lika-Senj County; Improve supervision, protection and sustainable use of natural heritage	km of newly built forest roads in the area of PP Velebit and Lika-Senj County

B5. INADEQUATE AND POOR MANAGEMENT OF PRIVATE FORESTS

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B5	SO2	SB51	A19	SA19.1. <i>Animation of local and regional development stakeholders - private forest owners and legal entities (Hrvatske šume, Advisory Service, SME)</i> : Presentation of the situation on the demand and biomass supply market in the area of Lika-Senj County and PP Velebit, with possibilities of economic development that provides for improvement of private forests management	B1	X			15.000	Ministry of Environmental Protection and Energy; The Environmental Protection and Energy Efficiency Fund; Ministry of Agriculture; Lika-Senj County, LSU	Increased public awareness of interested parties about developments in the biomass market;	Min. 10 consultation workshops with target groups and together; Min. 4 media/informative campaigns
			A20	SA.20.1 <i>Preparation and development of Programme for NP Velebit</i> : Appointment of an expert, multisectoral working group for the development of the Program; Implementing Public Procurement for the Supplier; Drafting the Program Proposal; Adoption of the Program at the Managing Board of the Public Institution NP Velebit	B3	X	X		20.000	Public Institution „Nature Park Velebit“	Increased sustainable economic development through the introduction of a private forest management system; Improvement of the supervision, protection and sustainable use of natural heritage in the area of NP Velebit and the area of Lika-Senj County (outside the border of NP Velebit) managed by the Public Institution for Nature Protection at the county level; Strengthening human resources in the management of private forests; a sustainable support system has been established for private forest owners	Developed a Program for improving the management of forests in private ownership in the area of NP Velebit; Found min. 3 private forest owners associations in the area of NP Velebit (at the LSU level in the Park area)
				SA20.2. <i>Preparation and development of Programme for Lika-Senj County (outside NP Velebit area)</i> : Appointment of an expert, multisectoral working group for the development of the Program; Implementing Public Procurement for the Supplier; Drafting the Program Proposal; Adoption of the Program at the County Council		X	X		20.000	Lika-Senj County		Developed a Private Ownership Forest Management Program in the Lika-Senj County; The County Association of Private Forest Associations (LSU association) joined in umbrella association)

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B6	SO3	SB61	A21	SA21.1 <i>Programme implementation in NP Velebit area</i> : Appointment of the multi-sectoral supervisory board of the program and the performance program team; Procurement for the purpose of implementing activities defined by the Program; Monitoring and evaluation of the implementation of the activities and the program as a whole.	B1/B3		X	X	0,7 mil.	Public Institution „Nature Park Velebit“ incl. Managing Authorities responsible for EU funds (Mainly – Ministry of Agriculture and Ministry of Environmental Protection and Energy)		Implemented a program for the improvement of private forestry management in the area of NP Velebit; Min. 3 private forest owners associations in the area of PP Velebit (at the LSU levels in the park area) operational and min. 3 development pilot projects implemented
				SA21.2 <i>Programme implementation in Lika-Senj County (outside NP Velebit area)</i> : Appointment of the multi-sectoral supervisory board of the program and the performance program team; Procurement for the purpose of implementing activities defined by the Program; Monitoring and evaluation of the implementation of the activities and the program as a whole.	B1/B3		X	X	1 mil.	Lika-Senj County incl. Managing Authorities responsible for EU funds (Mainly – Ministry of Agriculture and Ministry for Regional Development and ESI funds)		A program for the improvement of private-owned forests management in the Lika-Senj County; The County Association is operational, provides technical assistance to its members, has min. 2 persons employed through project financing; min. 3 development project financed by the EU

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B6	SO3	SB61	A22	SA22.1. <i>Programming; Preparation of project documentation.</i> EU Funds / National Funds Insurance from Current and Next Budget Period; Developing financial instruments; Creating the necessary technical documentation (preliminary demining project)	B1/B2	X	X	X	It can not be estimated without HCR detailed analysis; but the need is about 30 million Eur	EU funds and national budget (Ministry of Agriculture and Croatian De-mining Centre)	Implementation of Measure 5, RDP Croatia 2014-2020; Clearance of mine suspected forest areas in and for the next programming period under the Operational Programs / EU Financing Implementation	RDP Croatia for this and nex programming period - EU funds and national budget
				SA22.2. <i>De-mining implementation:</i> Implementation of public procurement procedures for the performance of works; Contracting, Monitoring and Evaluation	B1/B2	X	X	X			Increased areas cleared of mines to be managed in accordance with established forest management principles	km2 of forests and forest land clear from mines and explosive devices

9.1.7. REFERENCES

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9.2. ITALY (SICILY)

Partners Involved: Sicily Region, Municipality of Petralia Sottana and Enviland Ltd.

Pilot area: Madonie Regional Natural Park

9.2.1. INTRODUCTION

Description of the study area

[EN] The Madonie Park has a widely diversified territory, spread from a few meters above sea level up to about two thousand meters of altitude. It represents a mixture of the natural history of Sicily, highlighting climatic, geological, faunistic and ecological conditions of considerable interest and implication. The Madonie Regional Park covers an area of about 40,000 hectares. Of these, 14.6% is a complete reserve area (zone A), 41.7% a general reserve area (zone B), a protection zone 1.04% (zone C) and 42.7% control area (zone D). Through the years, the diversity of geological substrata, the contrasting orography, the traditional millenarian anthropic activities and the favourable climatic conditions of the territory of the Madonie have defined numerous habitats that contain agricultural crops, pastures and forest populations both of natural and anthropic origin. The plant landscape is dominated by steppes (about 13,000 hectares), followed by extensive agricultural crops (9,160 hectares) and forest formations (9,600 hectares). The mountainous areas of the Madonie are covered in large part by woods (3,500 ha), shrubs, herbaceous and shrubby plants. The Park is compounded of 15 towns, which are located at different levels and locations. In order of levels: Cefalù (sea level), Scillato (377 m), Castelbuono (400 m), Collesano (468 m), Isnello (590 m), Gratteri (657 m), Caltavuturo (635 m), Pollina (764 m), Castellana Sicula (765 m), Sclafani Bagni (813 m), Polizzi Generosa (917 m), Geraci Siculo (980 m), Petralia Sottana (1,000 m), San Mauro Castelverde (1,050 m) and Petralia Soprana (1,147 m).

[IT] Il Parco delle Madonie ha un territorio ampiamente diversificato, diffuso da pochi metri sul livello del mare fino a circa duemila metri di altitudine. Esso rappresenta una miscela della storia naturale della Sicilia, evidenziando condizioni climatiche, geologiche, faunistiche ed ecologiche di notevole interesse e implicazioni. Il Parco Regionale delle Madonie copre un'area di circa 40.000 ettari. Di questi, il 14,6% è un'area di riserva completa (zona A), il 41,7% un'area di riserva generale (zona B), l'1,04% è una zona di protezione (zona C) e un'area di controllo del 42,7% (zona D). Nel corso degli anni, la diversità dei substrati geologici, la contrastante orografia, le tradizionali attività antropiche millenarie e le favorevoli condizioni climatiche del territorio delle Madonie hanno definito numerosi habitat che ospitano colture agricole, pascoli e popolazioni forestali sia di origine naturale che antropica. Il paesaggio vegetale è dominato da formazioni steppiche (circa 13.000 ettari), seguite da estese colture agricole (9.160 ettari) e da formazioni forestali (9.600 ettari). Le aree montuose delle Madonie sono coperte in gran parte da boschi (3.500 ettari), arbusti, piante erbacee e arbustive. Il Parco è composto da 15 comuni, che si trovano a diversa quota e

localizzazione. Per quote crescenti: Cefalù (livello del mare), Scillato (377 m), Castelbuono (400 m), Collesano (468 m), Isnello (590 m), Gratteri (657 m), Caltavuturo (635 m), Pollina (764 m), Castellana Sicula (765 m), Sclafani Bagni (813 m) Polizzi Generosa (917 m), Geraci Siculo (980 m), Petralia Sottana (1.000 m), San Mauro Castelverde (1050 m) e Petralia Soprana (1.147 m).

Justification:

[EN] The main barriers identified for the pilot protected area in Italy are the following:

B1	Administrative: The lack of forest planning tools
B2	Technical: Limits and obstacles to the development of the forest sector
B3	Economic: Forestry activity with low or null profitability
B4	Social: Hesitancy in the exploitation of the biomass in protected areas and unwillingness of local actors to the cooperation and association

Woody biomass may represent an important renewable energy source in the Madonie Natural Park, useful for promoting the development of local communities, while ensuring the sustainability of forest resources. Local wood, in the form of trunks or branches, has always been used in the Madonie Park as the main source of energy by the rural and mountain communities. Although wood chips and pellets are increasingly exchanged in the local market, they are derived from wood exclusively imported from other areas of the world. In effect, within the pilot protected area there are technical, economic, administrative and social barriers that hinder the setting up of a forest-wood-energy supply chain technically efficient, as well as economically and ecologically sustainable. The forest sector is not adequately developed, both in public and private domain. In the Park, the enterprises operating in the forest sector are very few, and they are not adequately specialized, also lacking of the necessary technical and economic skills. Forestry works do not usually reach acceptable levels of productivity. A major issue of the forest sector is the high fragmentation of private forest ownership, which makes forest interventions uneconomic and forest planning difficult. This condition makes private forest owners unwilling to see in forests an economically viable and exploitable resource. In the project, informative campaigns will be conducted to favor the establishment of associations or consortia among private owners. In the public sector, the forest management is still not oriented towards efficient wood production (limited purchase of forestry machinery, inadequately skilled labour force, ecc.). There are also administrative and legislative restrictions related to the presence of protected natural areas, established with the primary purpose to preserve the biodiversity. One of the main objectives of the project is the removal of these barriers to simplify the authorization procedures necessary for carrying out forestry interventions in protected areas. It will also be necessary to rethink the regulation of the park, which imposes uniform rules on large areas. We would suggest a modification of the Park regulations, according to the guidelines of sustainable forest management and systemic silviculture, which pursue the natural dynamics and ensure the conservation of biodiversity.

[IT] Le biomasse legnose possono rappresentare un'importante fonte di energia rinnovabile nel Parco naturale delle Madonie, utile per promuovere lo sviluppo delle comunità locali, garantendo nel contempo la sostenibilità delle risorse forestali. Il legno locale, sotto forma di tronchi o ramaglia, è sempre stato utilizzato nel Parco dalle comunità rurali e montane come principale fonte di energia. Sebbene il cippato ed il pellet siano sempre più scambiati nel mercato locale, questi derivano esclusivamente da legno importato da altre aree del mondo. In effetti, all'interno dell'area protetta del pilota esistono barriere di natura tecnica, economica, amministrativa e sociale che ostacolano la creazione di una filiera foresta-legno-energia tecnicamente efficiente, nonché economicamente ed ecologicamente sostenibile. Il settore forestale non è adeguatamente sviluppato, sia in ambito pubblico che privato. Nel Parco, le imprese che operano nel settore forestale sono pochissime e non sono adeguatamente specializzate, e mancano anche delle necessarie competenze tecniche ed economiche. I lavori forestali di solito non raggiungono livelli accettabili di produttività. Uno dei principali problemi del settore forestale è l'elevata frammentazione della proprietà forestale privata, che rende gli interventi forestali antieconomici e difficile la pianificazione forestale. Questa condizione rende i proprietari privati non propensi a vedere nelle foreste una risorsa economicamente valida e sfruttabile. Nell'ambito del progetto saranno condotte campagne informative per favorire la costituzione di associazioni o consorzi tra proprietari privati. Nel settore pubblico, la gestione forestale non è ancora orientata verso una produzione di legno efficiente (acquisto limitato di macchine forestali, manodopera non adeguatamente qualificata, ecc.). Esistono anche restrizioni amministrative e legislative relative alla presenza di aree naturali protette, istituite con lo scopo principale di preservare la biodiversità. Uno degli obiettivi principali del progetto è la rimozione di questi ostacoli per semplificare le procedure di autorizzazione necessarie per l'esecuzione di interventi forestali in aree protette. Sarà anche necessario ripensare il regolamento del parco, che impone regole uniformi su vaste aree. Sugeriamo una modifica di questo, secondo le linee guida della gestione forestale sostenibile e della selvicoltura sistemica, che assecondano le dinamiche naturali e assicurano la conservazione della biodiversità.

Le principali barriere identificate per l'area protetta pilota in Italia sono le seguenti:

B1	Amministrativa: Assenza di strumenti di pianificazione forestale
B2	Tecnica: Limiti ed ostacoli allo sviluppo del settore forestale
B3	Economica: Bassa o nulla convenienza economica dell'attività forestale
B4	Sociale: Reticenza all'uso delle biomasse nelle aree protette e scarsa propensione degli attori locali alla cooperazione e all'associazionismo

9.2.2. OBJECTIVES

General objective:

Use of the wood residual biomass deriving from the sustainable forest management in the Madonie natural park for energy purposes

Woody biomass can represent an important renewable energy source even within protected natural areas, useful for promoting the development of local communities, while ensuring the sustainability of forest resources. Local wood, in the form of trunks or branches, has always been used in the Madonie Park as the main source of energy by the rural and mountain communities. In the last decades, both wood chips and pellets, almost exclusively imported from other areas of the world, have gradually become established in the local market, testifying to a growing local demand for wood products to be used for energy purposes. However, within the pilot protected area there are technical, economic, administrative and social restrictions that hinder the setting up of a forest-wood-energy supply chain technically efficient, as well as economically and ecologically sustainable. First of all, the forest sector is not adequately developed, both in public and private domain. The enterprises operating in the territory that carry out forest works are very few, they are not adequately specialized (often they are specialized in other fields), and they do not possess the necessary technical and economic skills. As a result, they do not generally have sufficient forestry professionals and machinery to guarantee acceptable levels of productivity of forestry work. Another limitation of the forest sector is the high fragmentation of private ownership, which makes forest interventions uneconomic (higher unit costs and insufficient revenues) and forest planning difficult. This condition makes private forest owners unwilling to see in forests an economically viable and exploitable resource. Informative campaigns will be conducted to favor the establishment of associations or consortia among private owners. In the public sector, there is a management of forest resources still not oriented towards efficient wood production (limited purchase of forestry machinery, inadequately skilled labour force, etc.). To these inherent shortcomings of the regional forest system, we have to take into account the administrative and legislative restrictions related to the presence of protected natural areas, which have the primary purpose the conservation of biodiversity. One of the main objectives of the project is the removal of these barriers to simplify the authorization procedures necessary for carrying out forestry interventions in protected areas. It will also be necessary to rethink the regulation of the park, which imposes uniform rules on large areas, for instance any interventions in the forests falling in zone A is prohibited, even in cases where the forest interventions are necessary to improve the conservation status of forest ecosystems, thus meeting the main objective of protected areas. The project also suggests a modification of the Park regulations that takes into account the guidelines of sustainable forest management and systemic silviculture, which envisage the implementation of forest interventions able to foster the natural dynamics and enhance the conservation of forest biodiversity.

Specific objectives:

- SO1: Enhancement of the planning of forest resources, both at territorial and local level, through the drafting of the forest management plans, able to match the productive function of forests with the conservation of forest ecosystems and the landscape in protected areas**

One of the major issues concerning the management of forest resources in Sicily is the deficiency of forest planning at all levels, from the company to regional level. This structural shortage, due to different reasons, curbs the availability of the basic knowledge necessary for the establishment of a short wood supply chain, i.e. the quantitative and qualitative data about the woody biomass effectively present and available for harvesting. For these reasons, one of the main objectives of the project is the drafting of forest management plans (FMPs), both at local and regional level, within the pilot protected area. The Forest Management Plan (FMP), as provided for by the recent national forest legislation (Article 6, Legislative Decree 34/2018, "Testo Unico in materia di foreste e filiere forestali"), is the indispensable tool for forest planning, which must coordinate with the other spatial planning instruments, and includes all the activities necessary to ensure the conservation of the national forest heritage and to promote the active and proper management of forest ecosystems. Therefore, the PGFs allow the forest planning, or the definition of the methods and timing of intervention on forest resources, in order to guarantee the conservation and development of the silvo-pastoral resources, whereas protecting the biodiversity, the natural values and landscape of protected natural areas, as provided for by national and community legislation. First of all, the FMP will make available the basic knowledge to make informed and rational choices. Depending on the characteristics of the area (slope, aspect, ecc.), the characteristics of the forest populations (species identity, age, stand density, ecc.), as well as the current restrictions (environmental, hydrogeological and landscape) and the necessary infrastructure, in particular the road system, it will be possible to determine the quantity of woody biomass that can actually be harvested from a given area of intervention. Taking into account the mean growth of the tree species present, it will be possible to assess how long a certain amount of biomass will be available, allowing a correct sizing of the biomass plant. In addition to FMPs drawn up on a local scale, the project provides for the drafting of territorial (i.e. sub-regional) FMPs which, according to the recent Decree 34/2018, concern homogeneous areas in terms of environmental, landscape and economic aspects. The sharing of these planning instruments, between institutions and private actors of the local community, can support processes useful for the creation of new forest enterprises interested in the establishment of short wood supply chains, thus fostering the use of local wood for the production of energy and heat.

- SO2: Support the establishment of forest enterprises and the development of local short biomass chains for the production of bioenergy, promoting the cooperation between private and public actors**

The project provide for the establishment of a local forest-wood-energy supply chain that is technically efficient, as well as ecologically and economically sustainable. The type of supply chain able to match the different needs of environment and man is the short supply chain, which may be realized only if the distance between the site of production of the raw material and the sales area is some tens of kilometers. A similar

production system allows for the re-entry into the local circuit of natural and economic resources, with recognized environmental, social and economic benefits. The most important social consequence, expected from the realization of the short supply chain, is the increase in local employment, which can be achieved along all the phases of the forest-wood chain, from cutting in the forest, to wood processing and finally the sale of wood products. The increase in the number of skilled labour and local forestry professional is also expected from the project, not only the total number of employed. The effective increase and improvement of the local economy will depend on several factors. Firstly, the stimulation for local production and sale of wood will significantly increase over time the share of locally produced and exchanged energy, used to feed the electricity grids or for heating, thus increasing the energy independence of the territory. Over time, as a consequence of the higher share of biomass locally sold, it is likely that there will be an increase in the level of self-production for heating, both in the public and private sector. This specific objective (SO2) is strongly linked to the possibility of establishing an association of local forest owners. Within the pilot protected area, private forests represent an important share (38%) of the whole forest area. More importantly, private forest properties are generally small and fragmented, thus pushing many forest owners not to manage and use these areas, deeming them to poor productive or completely unproductive. The establishment of a local association of forest owners can be an effective solution for overcoming this barrier, as it would reduce costs per unit area, and increase revenues from the sale of wood. The organization of short wood supply chains is easier when the biomass producers are grouped together in association. For instance, traders and consumers within the supply chain should communicate only with the representatives of the association and not with many small forest owners. The owners would be able to sell wood together as a single company and they could get a higher price for wood and other products. Information campaigns will be planned to spread the necessary knowledge about the many benefits, both economic and social, that the union of several forest owners can guarantee, thus encouraging them to actively participate in the management of forests. Subsequently, larger forms of collaboration such as forest cooperatives could be established. Associationism significantly increases the chances of achieving common objectives for the forestry supply chain, increasing the negotiating position of individual forest owners towards local and public authorities.

SO3: Increase the biodiversity, the structural complexity, the resilience and the functioning of forest ecosystems in the protected areas

The forest interventions foreseen in the project will have as main objective the increase of the biodiversity, the structural complexity, the resilience and functioning of the forest ecosystems occurring within the pilot protected area. Therefore, as part of an effective and valid forest planning process, the activities will be compatible with the main purpose of protected areas. These interventions are strictly necessary in certain contexts and forest populations. For instance, plantations of exotic tree species (present in all zones of the Park), require more or less intense thinning in order to promote renaturalization, or conversion into diversified, more complex and resilient forest ecosystems, dominated by native shrubs and trees. In the absence of forest management, the density of the forest stand is likely to be too high, forcing the tree individuals to grow much more in height than in diameter and going through intense processes of self-pruning. Such individuals are not very stable from the mechanical point of view and biologically weaker, being particularly susceptible to abiotic

(especially wind), but also biotic damages, such as the attack of fungal pathogens and insects. In such conditions, the crashes are frequent and the tree mortality is quite high. Moreover, the excessive density of the dominant layer, and the consequent limited light availability, prevent in most cases the entry and the progressive establishment of the native wood species in the understory. Hence, selective thinning is absolutely necessary for the evolution of the forest stand towards systems with higher complexity and diversity. A similar forest system is particularly capable of restoring and recovering its initial condition after the passage of a disturbance event, thus showing great resilience. Basically, we need to match the conservation purposes of protected areas, with the possibility of the active management of the resource, with positive outcomes also on the socio-economic development of the territory. In this way, the forest interventions could guarantee the sustainability of the forest-wood-energy supply chain at all levels, from the environment, to the social and economic level.

SO4: Increase the skills and technical capacity of forestry companies/enterprises operating in the area

The low level of mechanization and technological innovation of the forest sector, and the limited technical skills of the forest enterprises within the pilot protected area, hinder the establishment of efficient and productive local forest-wood supply chains. Therefore, an important objective of the project will be to promote the dissemination of knowledge and technical skills necessary for the development of wood supply chains. The project will propose the institution of the regional register of forest enterprises, in application of Article 7 of Legislative Decree 227/2001, which has allowed to greatly improving the development of the forest sector in several Italian regions. The adoption of the standard UNI 11660, which regulates the professional profile of the Forest Operator, in the context of forest utilization activities, and the forest-wood-energy supply chain, will be strongly encouraged. Fair events will also be organized with demonstration activities of means and techniques used by specialised companies in the forest sector. In the territory, information meetings will be promoted to spread knowledge about the opportunities offered by measure 8.6 of the 2014-2020 RDP, which provides economic resources for the modernisation and purchase of forestry machinery. Training activities will be promoted for forestry operators, including forest workers and personnel responsible for the planning and management of forest areas. The improvement of the technical skills of the forest sector will also be strictly linked to the necessary inclusion in public and private enterprises, of graduate students in forest science and related disciplines, which are poorly represented or completely absent.

SO5: Increase 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

The awareness of the important role that protected areas play in the safeguard of the natural heritage is becoming more and more widespread among the local communities. In this context, the use of the forest areas is often considered to be against the protective functions of these areas for the conservation of biodiversity and the safeguard of the natural landscape. Hence, the objective that we want to pursue is to address the complex topic of the relationships between the conservation of the

natural heritage and the economic development of the territory, with specific reference to the use of forest biomass deriving from the silvicultural interventions. For this reason, it is therefore necessary to launch information and awareness-raising activities addressed to the local community of the Madonie Park in order to increase the awareness on the environmental and socio-economic benefits that the sustainable forest management and the development of short wood energy supply chains can produce in the territory of the Park.

SO6: Fostering the use of local wood including certified wood products

Local wood production within the pilot protected area is currently very limited and confined. For this reason, the growing demand for wood products for energy purposes (wood chips and pellets), especially by private actors, is largely met with the importation of wood from other areas of the world. In addition to the lack of promotion of local natural resources, such situation considerably reduces the environmental benefits deriving from the use of local renewable energy sources, in a measure closely linked to the short distance from the forest where wood is harvested to the site where wood is sold and the related transport costs. The increasing use of local wood significantly strengthens the link between natural resources, and the acknowledgment of their importance for the development of the territory and the local populations. In such a way, local communities will be oriented towards the conservation and protection of their forests, seeing in them important possibilities for growth and development of the territory, even within natural protected areas.

9.2.3. SWOT ANALYSIS

Strengths	Weaknesses
<ul style="list-style-type: none"> - Strong cohesion of local institutions involved in a common process to define an integrated project of local development - 73% of the land of the Madonie Park is represented by woodlands and semi-natural environments - Positive role and of the Madonie Park in strengthening the social cohesion of the community - Regional funding programs (direct and indirect funds - managed by the Region) to encourage the development of wood supply chains - Request for biomass for domestic use and in public facilities for traditional heating 	<ul style="list-style-type: none"> - High reduction of the population living in the towns of the mountain belt - Low capacity of the agricultural sector to make resource (horizontal and vertical) - Reduced size of companies in physical and economic terms, with a low level of competitiveness and profitability - Inadequate level of education and instruction in the agriculture and forest sector, with an absence of skilled workforce and insufficient administrative competence of managers and directors - Low number of companies in the wood supply chain - Insufficient development of the agro-industrial system (even no-food sectors) with consequential absence of storage centres and initial processing - Difficulties for the agro-industrial and tourism companies to access credit, with the consequential risk of exclusion in the PSR measures - 84% of the territory of the Madonie Park is subject to hydrogeological restrictions - Important administrative restriction on forest management in protected areas - Inadequacies in the administrative management of the Park of Madonie for deficiency of qualified personnel

Opportunities	Threats
<ul style="list-style-type: none"> - Reliable presence of local organized partnerships (GAL, Sosvima, Union of Municipalities of Imera, GAC, etc.). Implementation of the rural development strategy - Agreement of Mayors for climate and energy, a central role in the development of common and shared energy policies in the Madonie area. - Start of processes of institutional innovation / intercommunal governance (SoSvima "Development Company for the Madonie"), to the promotion of new partnership networks with the aim of strengthening the resilience and development capacities of the territorial system as a "green community" inside of the SNAI Madonie (National Strategy for the development of internal areas). - GAL ISC MADONIE Local Action Group Initiative Development of the Madonie District, among the operational objectives: the activation, before 2018, of virtuous paths for the transfer of knowledge, innovation and good practices in favor of operators in the agri-food supply chains and production of energy from renewable sources - SNAI Madonie National Strategy for the development of areas inside the building six small platforms for collecting, processing, packaging and storing biomass from short supply chains. - PSR Sicily 2014-2020 Rural Development Program Measure 8 Support for forestry technologies and transformation, mobilization and pollution of forest products - Increase in employment through use in the production of woody biomass, compared to the use of fossil fuels 	<ul style="list-style-type: none"> - Depopulation of rural areas and loss of cultural heritage of arts and crafts - Lack of approval by the competent figures of the planning instruments on timetable, although already worked out and limited involvement of populations in planning and decision-making processes - Increase in forest fires - Strong competition for the energy supply, due to the presence of widespread networks for the supply of gas - Low awareness of the economic, environmental and social value of forested areas in terms of Ecosystem Services offered - Many wooded properties are private and this due to the difficult application of appropriate silvicultural techniques, settling and forest use - Minimum request and little accessibility of locally produced wood bits, for energy use, while high request of firewood

9.2.4. IMPACT

For what and when does the Action Plan implement?

The most important expected impact is the establishment of a short forest-wood-energy supply chain, which holds a close connection between the sustainable use of local forest resources, the demand for wood for energy purposes and the socio-economic development of the territory. You can achieve multiple environmental, economic and social benefits through the creation of a local wood market, which significantly reduces the import of timber, thus increasing energy independence and reducing carbon dioxide emissions, both for minors transport costs both for the desired increase in the use of wood as an alternative source to fossil fuels. Overall, the supply chain has among its priority objectives the creation of new jobs using local labor and professionals. A very important aspect is the organization of private forest owners within associations, in order to overcome the great technical and economic limits linked to the presence of small production units. The impacts of the plan will also be assessed through constant monitoring over time of the progress of the foreseen actions.

What is expected to be achieved in the short-medium and long term?

In a short term perspective, the project will expect to achieve the drafting of the forest management plans at territorial level. This will be pursued through the organisation of activities (information meetings, technical panel, ecc.) addressed to increase the knowledge and to favor the access to the available funds and specific measures of the Rural Development Programme for forest planning and the purchase of forestry machinery. Then, the project will aim to increase the awareness of the local community about the sustainable management of forest resources, as well as about the environmental and economic benefits that may issue from the establishment of forest-wood energy supply chains.

In a medium term perspective, the project will tackle important issues related to the improvement and the specialization of the local forest sector, including the establishment of the register of forest enterprises and the adoption of the standard UNI 11660 concerning the professional profile of the Forest Operator. Fair events will also be organized to spread knowledge about the latest technology and machinery of the forest setcor, as well as to show certified wood products by forest enterprises and the best practices adopted in other similar contexts at European level. A micro demonstration supply chain will be developed. In order to contrast the excessive fragmentation of private ownership, there will be set up a front office for supporting the forest owners and promoting the establishment of associations/consortia, and allowing the simplification of the procedures to execute forest interventions in protected areas. The implementation of a decision support system (DSS) for forest planning and the implementation of the Management Plan of wild Suidae could be also reached in a medium term view.

Some goals of the project could be achieved only under a long term perspective, such as the drafting of the Forest Management Plans at local level, the simplification of the procedures for obtaining the authorizations for the execution of forestry interventions in protected areas, the implementation of a Wildlife Management Plan,

as well as the experimental survey for the assessment of the payment of ecosystem services (PES) provided by forests. Training activities addressed to forestry operators and the inclusion of graduate students in forest science and related disciplines in the staff of public and private enterprises could be also reached only in a long term view.

What is the expected impact?

The expected impact is the setting up of a forest-wood-energy supply chain technically efficient, as well as economically and ecologically sustainable. It is expected the strong enhancement of the planning of forest resources, through the drafting of the forest management plans, which are the necessary planning tools to match the productive function of forests with the conservation of forest ecosystems, the protection of biodiversity, as well as the landscape in protected areas. Another expected impact will be the valorisation of the local forest sector, including the cooperation between private owners, the increase of the skills and technical capacity of forestry enterprises operating in the area and to facilitate the access to the funds available in the RDP 2014-2020.

9.2.5. RESPONSABILITIES

Whom is the Action Plan addressed?

The Action Plan is addressed to the institutions and bodies which are responsible for the management of the forest areas and of the protected areas, to the key actors in the development of short wood-energy supply chains and to the whole community of the Madonie Park and the neighbouring municipalities. In fact the actions of the plan engage all stakeholders, from the regional and local institutions to the forest enterprises and owners, each one according its own skills and competences. In this framework, the whole community of the Madonie Park, which is very cohesive from a social and identity point of view and carries out important strategies and programs for the local development starting from the protection and enhancement of its natural and cultural heritage (Madonie Area Strategy in the framework of the National Internal Areas Strategy, Local Action Group I.S.C. MADONIE in the framework of the Local Development Programme), will play an important role in the planning and management of forest areas and the planning of interventions for biomass use, in accordance with the protection and conservation objectives of the protected area.

Who is the responsible to implement it?

The regional and local institutions and in particular the Regional Department for local and territorial development, the management body of the Madonie Natural Park and the 15 Municipalities of the Park, will be the main responsables for the implementation of the Action Plan. As mentioned above, the Action Plan engages actively all local actors who are involved in the agricultural-forestry sector, in the energy sector, in the field of scientific research and in the protection and conservation of protected areas. Their involvement will be crucial for ensure the success of the Action Plan. In this framework the role of coordinator of the local actors could be carried out by the GAL (Local Action Group) ISC Madonie, funded under the LEADER Programme. The actors responsible for the Action Plan will also have to carry out the necessary monitoring activities of the foreseen actions.

9.2.6. PROPOSED NEW REGULATORY FRAMEWORK AND PERMIT ROUTE IN THE PROTECTED AREAS OF ITALY (SICILY)

B1. ADMINISTRATIVE BARRIER: THE LACK OF FOREST PLANNING TOOLS

Specific barrier	Why	Solution	How to tackle the barrier	With who
SB.1.1 The lack of Forest Management Plans at territorial (i.e. sub-regional) level (not provided for in regional legislation)	The absence of the Forest Management Plan entails long-times and complex procedures for obtaining, by the Management body of Madonie Natural Park, the permits necessary to make the forestry interventions.	Promote the drafting of Forest Management Plans at territorial level also through the use of the RDP (Rural Development Programme) funds	A.1. Drafting of the Forest Management Plans at territorial level, aimed at the maintenance and enhancement of silvo-pastoral resources and at the coordination of forestry activities	Regional authorities, Management body of Madonie Natural Park, Municipalities in Madonie Park, Higher education and research (Universities), Associations, ONG
SB.1.2 The lack of Forest Management plans at local level	The lack of Forest Management plans at local level and the presence of different constraints entails long-times for obtaining, by the different public bodies, the authorizations necessary for the execution of the forest interventions.	Promote the drafting of Forest Management plans at local level and strenghtening the synergies and coordination among the public bodies responsible for the issue of the necessary authorizations	A.2. Promote Agreements for the establishment of associations between public and private actors, in order to favour the drafting of Forest Management plans at local level and commit the Regional Authorities to the simplification of the authorization procedures for the execution of forestry interventions.	Regional Authorities, GAL (Local Action Group) ISC Madonie, Municipalities in Madonie Park, Private enterprises, Associations, Private owners

B2. TECHNICAL BARRIER: LIMITS AND OBSTACLES TO THE DEVELOPMENT OF THE FOREST SECTOR

Specific barrier	Why	Solution	How to tackle the barrier	With who
SB2.1 Scarce presence and limited technical-economic skills of forest companies operating in the protected area	The low level of mechanization of forestry activities and the limited technical skills of forestry enterprises hinder the establishment of technically efficient forest wood local supply chains	Promote the dissemination of knowledge and increase the technical skills necessary for the development of wood supply chains	A.3. Increase the technological innovation of the companies involved in the wood-energy supply chain	Sicily Region, Madonie Natural Park, Forestry enterprises, Management body of Madonie Natural Park, Chamber of Commerce, GAL (Local purchasing group), SOSVIMA, Strategy for Internal Areas, Entrepreneurs, Trade associations
SB2.2 Inadequate training of forest workers and inadequate specific skills of public and private managers in the field of forest resources planning and management	The inadequate specialization of forest workers leads to a low productivity of forestry work. The lack of specific skills by public and private managers causes the delay or the failure to draft the forest management plans.	Filling the training and technical skills gap of forest operators and staff	A4. Increase the technical skills of forestry personnel and operators	Sicily Region, Forest workers, Regional officials and managers, Trade unions, Universities, Management body of Madonie Natural Park
SB2.3 Limited availability of quantitative and qualitative data on forest biomass harvestable from silvicultural interventions	The limited availability of inventory data on forest stands does not allow to quantify the woody biomass potentially used for energy purposes	Forest planning activities at territorial (i.e. sub-regional) and local level	A5. Implementation of information systems to support forest planning both at local and regional level	Sicily Region, Management body of Madonie Natural Park, Public and private forest owners, Graduate students in forest science and related disciplines, Environmental associations, GAL (Local purchasing group)
SB2.4 Excessive presence of wild ungulates (fallow deer and wild boar) and domesticated wild species (goats, etc.)	The increasing spread of both grazing and wild animals, seriously compromises the natural regeneration of forest species, and strongly hinders the execution of forest operations, forcing more forest owners to abandon any form of management	To implement suitable wild fauna control strategies	A6. Census, control and monitoring of wild fauna	Management body of Madonie Natural Park, Zooprophyllaxis Institute, Sicily Region, Environmental associations, Municipalities

B3. *ECONOMIC BARRIER*: FORESTRY ACTIVITY WITH LOW OR NULL PROFITABILITY

Specific barrier	Why	Solution	How to tackle the barrier	With who
SB.3.1 Low economic convenience of forestry activities carried out in protected areas, mainly aimed at conserving forest resources	Forest operations often entail costs that exceed economic returns (low stumpage), making it difficult to create economically sustainable forest-wood-energy supply chains	To promote the spread of initiatives aimed at increasing the economic value of forest resources	A7. Initiatives aimed at increasing the economic value of forest resources (enhancing forest resources as an opportunity for entrepreneurial activities related to the short wood supply chain)	Universities/Research Institutions in partnership with the Management body of Madonie Natural Park, Forest owners, Forest enterprises, Management body of Madonie Natural Park, GAL, SOSVIMA
SB.3.2 Low efficiency and effectiveness of economic support mechanisms for the enterprises operating in the forest sector	Ineffectiveness of the management of financial resources for the incentive of forest enterprises with particular reference to EU funds of the RDP (Rural Development Programme) Sicily 2014-2020	To simplify the access procedures for RDP funding measures to increase the spending capacity of forest enterprises	A8: Simplification of access procedures for RDP funding	Local authorities, trade associations, environmental associations, forest owners and enterprises, Sicilian Region (DRSRT Department)
SB.3.3 Low-value wood products	The lack of certified wood products helps to keep low the economic value of the wood products	Promoting the knowledge and the spread of the main forest certification systems and related economic advantages	A9: To encourage the adoption of forest certification systems	Management body of Madonie Natural Park, GAL, SOSVIMA, Forest enterprises of the forest-wood supply chain, environmental associations

B4. *SOCIAL BARRIER*: HESITANCY IN THE EXPLOITATION OF THE BIOMASS IN PROTECTED AREAS AND UNWILLINGNESS OF LOCAL ACTORS TO THE COOPERATION AND ASSOCIATION

Specific barrier	Why	Solution	How to tackle the barrier	With who
SB.4.1 Poor acceptance towards forest operations within protected natural areas.	The use of environmental resources (including forestry ones) is often considered to be against the conservation and safeguard of nature and landscape.	Dissemination in public opinion about the important role of silviculture in the conservation and enhancement of forest resources and biodiversity	A.10. Information and awareness activities on forest management and biodiversity protection addressed to the local community	Management body of Madonie Natural Park, Municipalities in the Madonie Park, GAL isc Madonie, University of Palermo, Environmental associations, AIEL, Private owners, Local community
SB.4.2 Poor awareness of the opportunities deriving from the exploitation of forest biomass for the production of energy and heat	Lack of knowledge of the economic and environmental benefits linked to the development of the wood-energy supply chain	Increase the awareness of the local community on the benefits of the sustainable forest management aimed at the use of biomass for the production of energy and heat	A.11. Information and dissemination activities on the environmental and economic benefits that could derive from the development of the forest-wood energy supply chains at local level.	Management body of Madonie Natural Park, Municipalities in the Madonie Park, GAL isc Madonie, University of Palermo, Environmental associations, AIEL, Private owners, Local community Sicily Region - Department for rural and territorial development,
SB.4.3 High fragmentation of the private forest property	The very small area of the single forest properties makes difficult the planning and uneconomical the forest operations	Encourage the establishment of forestry consortiums/cooperatives for the establishment of forest-wood energy chains	A.12. Activities aimed at facilitating the development of forest owners associations in order to reduce operating costs and improve forest management	Sicily Region - Department for Rural and Territorial Development, Management body of Madonie Natural Park, Municipalities in Madonie Park, AIEL, AIEL - Italian Agroforestry Energy Association, Forest owners

CODE DESCRIPTION

SPECIFIC OBJECTIVES

- SO1:** Enhancement of the planning of forest resources, both at territorial and local level, through the drafting of the forest management plans, able to match the productive function of forests with the conservation of forest ecosystems and the landscape in protected areas
- SO2:** Support the establishment of forest enterprises and the development of local short biomass chains for the production of bioenergy, promoting the cooperation between private and public actors
- SO3:** Increase the biodiversity, the structural complexity, the resilience and the functioning of forest ecosystems in the protected areas
- SO4:** Increase the skills and technical capacity of forestry companies/enterprises operating in the area
- SO5:** Increase 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
- SO6:** Fostering the use of local wood including certified wood products

BARRIERS

- B1:** *Administrative barrier:* The lack of forest planning tools
- B2:** *Technical barrier:* Limits and obstacles to the development of the forest sector
- B3:** *Economic barrier:* forestry activity with low or null profitability
- B4:** *Social barrier:* Hesitancy in the exploitation of the biomass in protected areas and unwillingness of local actors to the cooperation and association

SPECIFIC BARRIERS

- SB.1.1:** The lack of Forest Management Plans at territorial (i.e. sub-regional) level (not provided for in regional legislation)
- SB.1.2:** The lack of Forest Management plans at local level
- SB2.1:** Scarce presence and limited technical-economic skills of forest companies operating in the protected area
- SB2.2:** Inadequate training of forest workers and inadequate specific skills of public and private managers in the field of forest resources planning and management
- SB.2.3:** Limited availability of quantitative and qualitative data on forest biomass harvestable from silvicultural interventions

- SB.2.4: Excessive presence of wild ungulates (fallow deer and wild boar) and domesticated wild species (goats, etc.)
- SB.3.1: Low economic convenience of forestry activities carried out in protected areas, mainly aimed at conserving forest resources
- SB.3.2: Low efficiency and effectiveness of economic support mechanisms for the enterprises operating in the forest sector
- SB.3.3: Low-value wood products
- SB.4.1: Poor acceptance towards forest operations within protected natural areas.
- SB.4.2: Poor awareness of the opportunities deriving from the exploitation of forest biomass for the production of energy and heat
- SB.4.3: High fragmentation of the private forest property

ACTIONS

- A.1: Drafting of the Forest Management Plans at territorial level, aimed at the maintenance and enhancement of silvo-pastoral resources and at the coordination of forestry activities
- A.2: Promote Agreements for the establishment of associations between public and private actors, in order to favour the drafting of Forest Management plans at local level and commit the Regional Authorities to the simplification of the authorization procedures for the execution of forestry interventions.
- A3: Increase the technological innovation of the companies involved in the wood-energy supply chain
- A4: Increase the technical skills of forestry personnel and operators
- A5: Implementation of information systems to support forest planning both at local and regional level
- A6: Census, control and monitoring of wild fauna
- A7: Initiatives aimed at increasing the economic value of forest resources (enhancing forest resources as an opportunity for entrepreneurial activities related to the short wood supply chain)
- A8: Simplification of access procedures for RDP funding
- A9: To encourage the adoption of forest certification systems
- A10: Information and awareness activities on forest management and biodiversity protection addressed to the local community
- A11: Information and dissemination activities on the environmental and economic benefits that could derive from the development of the forest-wood energy supply chains at local level
- A12: Activities aimed at facilitating the development of forest owners associations in order to reduce operating costs and improve forest management

SPECIFIC ACTIONS

- SA.1.1: Establishment of a Technical Panel aimed at defining the procedures for the drafting of the Forest Management Plans at territorial level, as foreseen in the Guidelines of the national law (Testo Unico in materia di foreste e filiere forestali, D.Lvo 34 3/42018, Art. 6)

- SA.2.1: Establishment of a technical panel with the aim of promoting partnership agreements between public and private actors for the drafting of the FMPs in the context of the sub-measure 16.8 of the RDP programme
- SA.2.2: Establishment of a technical panel with the aim of defining simplified procedures for getting the clearance necessary for the approval of the FMPs

- SA3.1: Establishment of the regional register of regional forest enterprises
- SA3.2: Fair events with demonstration activities of means and techniques used by enterprises specialized in the forest sector
- SA3.3: Information meetings in the territory to promote the opportunities offered by the Measure 8.6 of the 2014-2020 RDP (Rural Development Programme), which provides for the modernisation and purchase of forestry equipment and machinery

- SA.4.1: Training activities addressed to forestry operators (forest workers and personnel responsible for the planning and management of forest areas)
- SA.4.2: Adoption of the standard UNI 11660 concerning the professional profile of the Forest Operator, in the context of forest utilization activities and in the forest-wood-energy chain sector
- SA.4.3: To include in the staff of public and private enterprises graduate students in forest science and related disciplines

- SA.5.1: Implementation of a decision support system (DSS) for forest planning

- SA.6.1: To implement the Management Plan of wild Suidae in the Madonie Park (planned as early as 2015, and extended for the three-year period 2017-2019 with a D.D.G. by DRSRT of the Sicilian Region No. 1375/2016)
- SA.6.2: Implementation of a Wildlife Management Plan

- SA.7.1: Experimental survey for the assessment of the payment of ecosystem services (PES) provided by forests (quantification of the economic value of ecosystem services)
- SA.7.2: Informative meetings to boost the participation of forest owners, both public and private, in the RDP calls

- SA.8.1: Technical panel between the stakeholders and the paying agency, to simplify the access procedures for RDP funding

- SA.9.1: Fair events with information stands and exhibition of certified forest products to encourage the local forest enterprises to adopt forest certification systems

- SA.10.1: Information seminars and awareness-raising activities on the topic of the sustainable management of forest areas

- SA.11.1: Dissemination of the monitoring results of forestry interventions carried out in other comparable forest areas
- SA.11.2: Information seminars on the environmental and economic benefits that derive from the development of forest-wood energy supply chains at local level
- SA.11.3: Presentation of best practices adopted in other contexts at European and national level
- SA.11.4: Development of a micro demonstration supply chain through the involvement of all key actors
- SA.12.1: Awareness, information and training activities for forest owners for promoting the establishment of associations/consortia.

B1. ADMINISTRATIVE BARRIER: THE LACK OF FOREST PLANNING TOOLS

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B1	SO1	SB.1.1	A.1	SA.1.1. <i>Establishment of a Technical Panel aimed at defining the procedures for the drafting of the Forest Management Plans at territorial level, as foreseen in the Guidelines of the national law (Testo Unico in materia di foreste e filiere forestali, D.Lvo 34 3/42018, Art. 6):</i> The strengthening of public action and the sharing of strategies and methods for the sustainable management of forest systems with the local community, can guarantee a better maintenance of the naturalistic and landscape values of the protected areas and make compatible and support the forestry enterprises	B2	X			2.000	Sicily Region - Department for rural and territorial development	Drafting of the Forest Management plans at territorial level shared by the public institutions and the local community. Increasing the knowledge in the local community about the opportunities provided by the drafting of FMPs at territorial level for the comprehensive development (socio-economic and occupational) of the protected area.	Forest area included in a protected area on which there is a Forest Management Plan at territorial level

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B1	SO1	SB.1.2	A.2	SA.2.1. <i>Establishment of a technical panel with the aim of promoting partnership agreements between public and private actors for the drafting of the FMPs in the context of the sub-measure 16.8 of the RDP programme.</i> In order to overcome the lack of FMPs at local level, the signing of partnership agreements between public and private actors will be favoured, also considering the sub-measure 16.8 of the RDP programme. These agreements will have to be stimulated by bottom-up initiatives by private actors and companies, professional associations, NGOs, associations and local action groups (public-private) who will have to involve the Local and Regional Authorities and promote the drafting of the Forest Management Plans at local level.	B3 B4		X		10.000	Management body of Madonie Natural Park	Promotion of the cooperation between private and public actors involved in the forest sector for improving the planning of forest resources at local level. Increasing the knowledge of the local community on the funds of the Rural Development Plan and on the available resources to support the planning and the forest enterprises and in particular the short wood energy chain. Favours the establishing of simplified procedures for the approval of the FMPs at local level.	Number of information and training initiatives Number of participants who attended the technical panels

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B1	SO1 SO2	SB.1.2	A.2	<p>SA.2.2. <i>Establishment of a technical panel with the aim of defining simplified procedures for getting the clearance necessary for the approval of the FMPs.</i> Agreements between the Local and Regional Authorities, the Management body of Madonie Natural Park and the private actors for the simplification of the authorization procedures necessary to the execution of the forest operations: The drafting of the Forest Management Plans will strengthen the common vision on local development strategies. The signing of agreements between local and regional authorities, aimed at overcoming the long bureaucratic procedures for the issue of the authorizations necessary for the execution of forestry interventions in the protected areas, will encourage the development of the forest enterprises</p>	B2 B4		X		0,00	Management body of Madonie Natural Park	Raising awareness of the advantages for the enterprises deriving from the drafting and implementation of FMPs for the execution of interventions in the forests included in the protected areas	<p>Number of Local Authorities that stipulate agreements for the definition of simplified procedures for the approval of the FMPs</p> <p>Number of Agreements between public and private bodies for the drafting of the FMPs at local level.</p>

B2. TECHNICAL BARRIER: LIMITS AND OBSTACLES TO THE DEVELOPMENT OF THE FOREST SECTOR

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B2	S02 S04	SB2.1	A3	SA3.1. <i>Establishment of the regional register of regional forest enterprises.</i> At the initiative of local institutions, the establishment of the register of forest enterprises is proposed in order to strengthen the level of specialization of personnel and technological innovation in the forestry sector	B3 B4		X		0,00	Sicily Region	Establishment of the register of forest enterprises	Number of forest enterprises registered
	S02 S04 S06			SA3.2. <i>Fair events with demonstration activities of means and techniques used by enterprises specialized in the forest sector.</i> Selection of exhibiting forest enterprises operating along all the phases of the forest-wood supply chain	B3		X		10.000	Management body of Madonie Natural Park	Organisation of fair events with forest enterprises involved in the forest-wood supply chain	Number of realized events, number of involved companies and number of participants

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B2	SO2 SO4			SA3.3. <i>Information meetings in the territory to promote the opportunities offered by the Measure 8.6 of the 2014-2020 RDP (Rural Development Programme), which provides for the modernisation and purchase of forestry equipment and machinery: Meetings with enterprises operating in the forest sector within the Park territory will allow to increase the knowledge on the opportunities offered by the Measure 8.6 of the 2014-2020 RDP</i>	B3 B4	X			2.000	Sicily Region/Management body of Madonie Natural Park	Organisation of information meetings to promote the opportunities offered by the Measure 8.6 of the 2014-2020 RDP	Number of realized meetings
	SO1 SO4	SB2.2	A4	SA4.1. <i>Training activities addressed to forestry operators (forest workers and personnel responsible for the planning and management of forest areas): Selection of the sample of learners according to age, tasks covered and such as to be representative of the different geographical areas of the Park</i>	B3 B4		X		6.000	Sicily Region	Organisation of training activities addressed to forestry operators	Number of organized training activities and number of people involved
	SO2 SO4			SA4.2. <i>Adoption of the standard UNI 11660 concerning the professional profile of the Forest Operator, in the context of forest utilization activities and in the forest-wood-energy chain sector: Insertion of the professional figure of the Forest Operator in the repertoire of qualifications of the Sicily Region</i>	B3 B4		X		0,00	Sicily Region	Adoption of the standard UNI 1160	Number of qualifications released according to the standard UNI 1160

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B2	SO1 SO4	SB2.2	A4	SA4.3. <i>To include in the staff of public and private enterprises graduate students in forest science and related disciplines.</i> The recruitment of graduate personnel specialized in the field of forestry sciences can increase the design and technical capacity of public and private forest enterprises	B4			X	0,00	Sicily Region/Management body of Madonie Natural Park	The inclusion of graduate students in forest science and related disciplines in the staff of public and private enterprises	Number of public tenders and number of available posts
	SO1 SO2 SO3	SB2.3	A5	SA5.1. <i>Implementation of a decision support system (DSS) for forest planning.</i> The implementation of a DSS (Decision Support System) may be used to identify the Biomass Districts, as well as a support for determining the optimum plant size (and power) for the production of	B1	X	X		12.000	Management body of Madonie Natural Park	Establishment of a DSS	Area affected by the DSS
	SO1 SO3	SB2.4	A6	SA6.1. <i>To implement the Management Plan of wild Suidae in the Madonie Park (planned as early as 2015, and extended for the three-year period 2017-2019 with a D.D.G. by DRSRT of the Sicilian Region No. 1375/2016):</i> The effective implementation of the Management Plan of wild Suidae may allow to significantly reduce their negative effects on forest conservation and stability	B3		X		0,00	Management body of Madonie Natural Park	Implementation of the Management Plan of wild Suidae	Number of animals caught within the pilot area
				SA6.2. <i>Implementation of a Wildlife Management Plan:</i> The drafting and application of the Wildlife Management Plan within the territorial (i.e. sub-regional) forest management plan may allow to control the population of dangerous introduced mammals in addition to wild Suidae	B3			X	20.000	Management body of Madonie Natural Park	The inclusion of the Wildlife Management Plan within the territorial (i.e. sub-regional) forest management plan	Drafting of the Wildlife Management plan

B3. ECONOMIC BARRIER: FORESTRY ACTIVITY WITH LOW OR NULL PROFITABILITY

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B3	SO1 SO2 SO3 SO5	SB3.1	A7	SA7.1. <i>Experimental survey for the assessment of the payment of ecosystem services (PES) provided by forests (quantification of the economic value of ecosystem services):</i> The adoption of appropriate tools for assessing the payment of PES, on the basis of the most recent methodologies, and taking into account the peculiarities of the pilot protected area, allows the acknowledgment of the economic value of the ecosystem services provided by forest resources	B4		X	X	0,00	Universities/Research Institutions	Launching of research projects and activities addressed to the assessment of PES	Number and budget of research projects addressed to the assessment of PES
	SO2			SA7.2. <i>Informative meetings to boost the participation of forest owners, both public and private, in the RDP calls.</i> Identification of possible solutions to facilitate the access to RDP funds by forest enterprises	B2	X			2.000	Management body of Madonie Natural Park	Organisation of informative meetings to boost the participation in the RDP calls	Number of organized information meetings and number of involved parties
	SO2	SB3.2	A8	SA8.1. <i>Technical panel between the stakeholders and the paying agency, to simplify the access procedures for RDP funding:</i> To support the forest enterprises in the access procedures to RDP funds	B2	X			3.000	Management body of Madonie Natural Park	Organisation of technical panels to simplify the access procedures for RDP funding	Number of meetings of the technical panel and number of involved parties
	SO1 SO2 SO6	SB3.3	A9	SA9.1. <i>Fair events with information stands and exhibition of certified forest products to encourage the local forest enterprises to adopt forest certification systems:</i> demonstration of virtuous cases of forest enterprises, operating along the wood supply chain, shows the positive effects of the certification of wood products on the socio-economic development of the territory and on the sustainability of the forest-wood supply chain	B2 B4		X		10.000	Management body of Madonie Natural Park, GAL, SOSVIMA	Organisation of fair events with information stands and exhibition of certified forest products	Number of organized fair events, number of exhibiting enterprises and number of visitors

B4. *SOCIAL BARRIER*: HESITANCY IN THE EXPLOITATION OF THE BIOMASS IN PROTECTED AREAS AND UNWILLINGNESS OF LOCAL ACTORS TO THE COOPERATION AND ASSOCIATION

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B4	SO1 SO5	SB.4.1	A10	SA.10.1. <i>Information seminars and awareness-raising activities on the topic of the sustainable management of forest areas</i> . Dissemination of the benefits that a correct and well planned management of the forest areas can produce on the conservation and safeguard of biodiversity in protected areas	B2	x			6.000	Management body of Madonie Natural Park	Raising awareness in the local community of the links between the forestry activities and the conservation/safeguard of biodiversity in protected areas	Number of information and awareness campaigns Number of involved stakeholders
	SO2 SO3 SO5	SB.4.2	A11	SA.11.1. <i>Dissemination of the monitoring results of forestry interventions carried out in other comparable forest areas</i> . Dissemination of the effects that a correct forest activity produces on the environmental components	B2		x		5.000	Sicily Region - Department for Rural and Territorial Development	Drafting of technical and scientific reports on the effects that a proper forest management produces on the protection of biodiversity	Number of technical reports Number of involved stakeholders
	SO2 SO3 SO5 SO6			SA.11.2. <i>Information seminars on the environmental and economic benefits that derive from the development of forest-wood energy supply chains at local level</i> . Presentation of the economic and environmental benefits that derive from the development of forest-wood energy supply chains at local level	B3	x	x		6.000	Sicily Region - Department for rural and territorial development	Raising awareness of the economic impact and on the contribution to the reduction of CO ₂ deriving from the development of forest-wood energy chains in the local community	Number of training seminars Number of involved persons/ stakeholders

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B4	SO2 SO5	SB.4.2	A11	SA.11.3 <i>Presentation of best practices adopted in other contexts at european and national level.</i> Dissemination of the economic and environmental effects obtained by the adoption of the best practices	B3	X			10.000	(Costs for drafting and disseminating the report) Sicily Region - Department for rural and territorial development	Greater knowledge of the benefits obtained for the local communities by the adoption of the best practices	Number of initiatives/events for the presentation of the report Number of reached stakeholders
	SO2 SO5			SA.11.4. <i>Development of a micro demonstration supply chain through the involvement of all key actors.</i> Encourage the development of supply chains at local level	B2 B3		X		50.000	Municipality of Petralia Sottana	Implementation of a best practice at local level	Tons of fossil fuels saved Tons of CO ₂ avoided
	SO2	SB.4.3	A12	SA.12.3. <i>Awareness, information and training activities for forest owners for promoting the establishment of associations/consortia.</i> foster the entrepreneurial culture and cooperation benefits	B3		X		3.000	Municipality of Petralia Sottana (Associazione dei comuni)	Establishment of an association/consortium of forest owners	Number of forest owners involved

9.2.7. REFERENCES

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9.3. SLOVENIA

Partners Involved: Slovenian Forestry Institute and RDA Green Karst.

Pilot area: Škocjan Caves Regional Park and Pivka Lakes Nature Park protected and buffer area

9.3.1. INTRODUCTION

Brief description of the study area

[EN] The study area is situated at the extensive junction of the karst and non-karst worlds at the southwestern foot of a high barrier of Dinaric plateaus. Its favourable location is influenced by the Mediterranean climate. Its surface is heavily broken. Great share of the area is covered by forests; it represents nearly 70% of the study area and represents a potential for the increased biomass production.

Study area in Slovenia consists of five municipalities that include large percentage of protected areas - Škocjan Caves Regional Park (hereafter: ŠCRP) and Pivka Lakes Nature Park (hereafter: PLNP) buffer area.

Table 2: Protected areas within the municipalities, included in study area

Municipality	Surface (ha)	Surface within the Škocjan Caves Regional Park buffer zone (ha)	Share (%)	Surface within the Pivka Lakes Nature Park buffer zone (ha)	Share (%)
Divača	14.501	7.435	51,3		
Hrpelje - Kozina	19.488	1.501	7,7		
Ilirska Bistrica	47.991	26.725	55,7		
Pivka	22.320	7.825	35,1	14.821	66,4
Postojna	26.979	1.435	5,3		
Sum	131.280	44.922	34,2	14.821	11,3

Biomass potentials and production increasement possibilities within the study area will be focused on the area of all 5 municipal surfaces. Protected areas and their buffer zones cover approximately 45% of all five municipalities' area. Besides that, nearly 60% percent of the study area is covered by Natura 2000 sites. The biodiversity is high and requires an adapted management of the area.

[SLO] Obravnavano območje se nahaja na stiku kraškega in nekraškega sveta na jugozahodnem vznožju dinarskih planot, ki predstavljajo visoko bariero. Lokacija je pod vplivi mediteranskega podnebja ugodna, medtem ko je površje na tem območju zelo razgibano. Morfološka razgibanost terena in plitva tla določata rabo tal. Glede na visok delež gozda na obravnavanem območju (70% površine območja) je potencial za povečano rabo lesne biomase velik.

Obravnavano območje sestavlja 5 občin – Divača, Hrpelje-Kozina, Ilirska Bistrica, Pivka, Postojna, katerih velik delež pokrivata zavarovani območji – Regijski park Škocjanske jame in Krajinski park Pivška presihajoča jezera z vplivnim območjem.

Table 3: Zavarovana območja z vplivnimi območji znotraj obravnavanega območja

Občina	Površina (ha)	Površina znotraj Regijskega parka Škocjanske jame (ha)	Delež (%)	Površina znotraj Krajinskega parka Pivška presihajoča jezera (ha)	Delež (%)
Divača	14.501	7.435	51,3		
Hrpelje - Kozina	19.488	1.501	7,7		
Ilirska Bistrica	47.991	26.725	55,7		
Pivka	22.320	7.825	35,1	14.821	66,4
Postojna	26.979	1.435	5,3		
Skupaj	131.280	44.922	34,2	14.821	11,3

Možnosti za povečano rabo biomase in njenega pridobivanja se obravnavajo na celotnem projektnem območju. Od tega velik delež območja, okrog 45%, pokrivata zavarovani območji z njunimi vplivnimi območji. Poleg tega so na skoraj 60% projektnega območja prisotna Natura 2000 območja. Visoka biotska pestost in njeno ohranjanje ponekod zahtevajo prilagojeno upravljanje območja.

Justification:

[EN] Through the activities already performed in the frame of ForBioEnergy project (D3.3.1) a list of barriers was developed and discussed with main stakeholders in pilot area. The main barriers that should be tackled for further development of wood biomass sector in pilot areas are as follows:

Table 4: Main barriers identified within the project area

B1	Social barrier: Small forest owners are not connected/associated and not interested in active forest management
B2	Social: Small forest and agriculture parcels, which result in higher operational costs
B3	Social and technical barrier: Poor integration of stakeholders along the biomass wood chain
B4	Legislative barrier: Goals from forest management plans are not realised
B5	Economic: High investment costs in biomass heating systems

It is important to encourage land owners to maintain the traditional land use practices, as the overgrowing of agricultural areas is present within the study area. **Small forest owners are not interconnected**, and as the small forest management costs are high, they are not active or interested in the management as they do not see any financial benefits in it.

Even though there are high potentials for biomass extraction as well as there are local energy needs. Due to poor integration of stakeholders, **biomass wood chains are not fully developed** yet. Considering the biomass heating systems, the interest for them is present but **the investments costs are high** and the main reason why local communities (in public buildings) rarely decide for it.

Goals from the forestry management plans are not realised. More active **integration of the stakeholders in the forestry management plan preparation** would improve the forest management in line with the objectives set in the forestry management plan. Awareness rising, and cooperation of the stakeholders is needed.

[SLO] V okviru že izvedene aktivnosti (D3.3.1) v okviru projekta ForBioEnergy je bil pripravljen seznam ovir za pridobivanje lesne biomase v obravnavanih zavarovanih območjih. Z glavnimi deležniki, ki so vključeni v proces pridobivanja lesne biomase na obravnavanem območju, je potekala diskusija glede izpostavljenih ovir. Ključne ovire, s katerimi se bo potrebno soočiti pri nadaljnjem razvoju sektorja lesne biomase, so navedene v spodnji tabeli.

Table 5: Ključne ovire za pridobivanje lesne biomase na obravnavanem območju

B1	Socialna ovira: Lastniki gozdov med seboj niso povezani in se ne zanimajo za aktivno gospodarjenje z gozdom
B2	Socialna ovira: Razdrobljenost ter majhne površine gozdnih in kmetijskih zemljišč predstavljajo visoke stroške upravljanja
B3	Socialna in tehnična ovira: Slaba povezanost deležnikov vzdolž lesnopredelovalne verige
B4	Zakonodajna ovira: Cilji gozdnogopodarskih načrtov niso realizirani
B5	Ekonomska ovira: Visoki investicijski stroški v ogrevalne sisteme na lesno biomaso

Na obravnavanem območju je prisotno zaraščanje kmetijskih površin. Za ohranjanje kulturne krajine je potrebno vzpodbujati tradicionalno rabo tal, ki bi zaustavila zaraščanje. Razlog za nezainteresiranost lastnikov za upravljanje z gozdom je predvsem **razdrobljenost gozdnih zemljišč in majhne površine**, ki pripadajo posameznemu lastniku gozda. **Stroški upravljanja z majhnimi površinami gozda so razmeroma visoki, ekonomske koristi za posameznega lastnika pa majhne**. Iz tega razloga so lastniki neaktivni in nezainteresirani za upravljanje z gozdom, pri čemer pa

*velik potencial predstavlja **povezovanje lastnikov gozdov, ki pa zaenkrat še ni prisotno.***

*Na območju je prepoznan potencial za povečano pridobivanje lesne biomase iz gozdov, kot tudi lokalne potrebe po lesni biomasi za namen ogrevanja. Zaradi slabega vključevanja in medsebojnega povezovanja deležnikov, **so gozdno-lesne verige v tem območju slabše razvite kot bi potencialno lahko bile.** Povpraševanje po ogrevalnih sistemih na lesno biomaso je veliko predvsem v gospodinjstvih. **Ogrevalni sistemi na lesno biomaso predstavljajo visok investicijski strošek, zato se lokalne skupnosti težje odločajo za ogrevanje javnih stavb na lesna goriva.***

Cilji gozdnogospodarskih načrtov pogosto niso realizirani, za kar je razloge možno iskati v tem, da se lastniki gozdov v pripravo gozdnogospodarskih načrtov ne vključujejo aktivno. Z večjim vključevanjem in posledično ozaveščenostjo lastnikov o zastavljenih ciljih in finančnih koristih, ki jih lahko imajo od izvajanja del, bi bili cilji doseženi v večji meri.

9.3.2. OBJECTIVES

General objective

Sustainable mobilisation of wood biomass from forests and extensive overgrowth agricultural land in pilot area (Škocjan Caves Regional Park and Pivka Lakes Nature Park protected and buffer area).

Wood biomass is an important source of energy in the protected areas as well as in their buffer zones. Wood fuels are traditionally used by households in the form of logs. In last years wood pellets and also wood chips are also coming in to the market. To support further development of wood biomass sector in the pilot area sustainable resources of wood biomass are needed. Forests are and will also in the future remain the most important resource for low quality wood available for energy use. But on the other side the pilot area is facing a problem of extensive overgrowth of agricultural land. This process represents important threat to several species and habitat types. With further development of wood biomass sector also low-quality wood from re-establishment of agricultural land could be used for energy production. To mobilise wood biomass from both resources forest and land owners should be involved and motivated to act, local community should support them and promote use of wood fuels in public buildings.

Specific objectives

SO1: **Establishment of local forest owner's association that will develop further in more market orientated legal form of cooperation (e.g. cooperative)**

In Slovenia as well as in our pilot area the share of private forest owners is high. Private forest estates are usually small and fragmented, and this is also one of the reasons why forest owners are not active. Establishment of local forest owners association can be a solution for this barrier. In this way forest owners would connect in an association and cooperate in a meetings and diverse trainings and educations. This could have a positive effect on forest owners – enabling discussions and motivate them to actively involved in forest management. Next step would be establishment of

forest/agricultural cooperative or any other legal form of enterprise. This would help forest owners to lower the operation costs and gain higher income from selling the wood. In this way they would be able to sell the wood together as one company and get higher price for the wood and other products.

SO2: Re-establishing agricultural land and cultural landscape to protect and preserve specific habitats and species of Natura 2000 network

One of the most important threat to several species and habitat types in pilot area is extensive overgrowth of grasslands. Species, which need grasslands as their essential living structure, suffer from disappearing of meadows and pastures. Also, several grassland habitat types are disappearing rapidly and extensively. The main goal of the Natura 2000 network is safeguarding of favourable conservation status of species and habitats. Moreover, there is not enough just to remove overgrowth. It must be removed on the proper way to avoid any possible danger to spoil the situation. Removal of overgrowth must be planned.

Additionally, we must re-establish agricultural use of these sites. Land owners and their association should be involved into action. In some cases, mulching of stumps is necessary. We need to encourage local public bodies dealing with agriculture sector to help land owners. Land owners should find new opportunities for development, jobs and income. Agriculture measures from rural development program for co - financing some activities should be studied and maybe adaptations should be proposed.

Stakeholders are involved into whole process, so we need a good cooperation, motivation and trust. Moreover, strong lead person or body which coordinates all activities is needed and should be defined at the beginning.

SO3: Improving of forest ecosystems quality and stability

The objectives, set in the forestry management plan, are not realised. The most important reasons are: small private forests properties and income from forests are not important for forest owners.

Before 1993 the management of forest did not depend of forest owner interest for harvesting. If he did not perform silvicultur activities (logging and other activities), local forest enterprise performed it instead of him on his expence. In 1993 system changed, forest enterprises stopped with the management of private forests and left them to be managed by their owners. Due to small forest estates, the interest in logging is low. Some people also got back their nationalised forests, but these generations are not familiar with the forest management. Consequently, there are many forest owners that basically don't know what to do with their property, but they are not keen to sell it.

Slovenian Forest Service is preparing Forest Management Plans for all forests irrespective of ownership. Forest Management Plans are revised each 10 years. Nowadays the situation is that the plans are not realized because the state cannot force forest owners to implement the planned works in the forests, besides protective measures, for which forest owners get a decision what works in what time they should implement. Among the planned activities it is important to encourage cut and

silvicultural measures – especially thinning. In this way the quality and stability of forest stands would improve.

It is strongly connected with the specific objective 1 as one of the main reasons why management plan objectives are not realised is that the management costs of small forests plots (mean size approximately 2 ha) are high. Forest owners are not active or interested in the management as they do not see any financial benefits in it. To achieve the objective, small forest owners must be connected /associated. By aggregating small forest owners and establishment of joint management, biomass production could be increased, notably at the expense of implementation of allowable cut and thinning of young stands.

Better organisation and joint management will ensure also timely implementation of protective measures, especially sanitation of bark beetle hot spots.

Expected deliverable is to achieve higher share of implemented silvicultural and protective measures, increase the biomass production and ensure the financial benefits for forest owners. To achieve that, it is important to be conscious it is a long-term process and to gradually integrate the forest owners.

The long-term impact (20-30 years) will reflect in the forest ecosystems quality and stability and higher wood quality and realised objectives, set in the forestry management plans.

SO4: Establishment of local/short biomass production chains

Currently the wood biomass produced in local area is sold to final consumers – households, where the transport costs are negligible, and to the wood dealers. The biomass should also be offered directly to other local consumers (public buildings, industry) and lower the transport costs and the share of the sale of the biomass directly to traders.

Linked with the achievement of higher share of the biomass, sold locally, the level of the heating self-supply will increase.

This specific objective is strongly connected with the specific objective 1 (Establishment of local forest owner's association that will develop further in more market orientated legal form of cooperation (e.g. cooperative)). Organisation of the short biomass production chains would be easier if the producers of biomass were formed in cooperation. In this way, the traders and consumers within the biomass production chain only must communicate with representative of the cooperation and not with many small forest owners.

The positive impacts of the organisation of the biomass production chains should be tangible in 10 years. The local biomass production chains will generate financial benefits to locals.

SO5: Heating of public building with locally produced wood fuels

Currently there are many public buildings within the study area that are still using liquefied petroleum gas (LPG) and heating oil for heating purposes. This represents a big potential for the use of local biomass and consequently lesser

emissions that are consistent with guidelines of local energy concepts where it is pointed out that switch to alternative energy sources is needed.

All the public buildings that intend to refurbish the boiler station should be encouraged to switch to alternative energy sources (wood fuels: chips and pellets). By achieving this share of the consumers of liquefied petroleum gas (LPG) and heating oil for heating purposes will be decreased, the use of locally produced biomass will increase. Consequently, the quantity of the biomass sold directly to traders that export it will decrease; as well as the transport costs.

To support the objective achievement, there are also possibilities to receive a subsidy for switching to alternative energy sources. The goal is to reach 80% of the energy needs for heating covered with wood fuels within the study area. Currently, approximately 70% of the energy needs are covered with wood fuels. The highest potential are public buildings where wood fuels are not used as often as they could be.

This specific objective is mid-term; it is possible to reach it in 15 years.

9.3.3. SWOT ANALYSIS

Strengths	Weaknesses
<ul style="list-style-type: none"> - High wood biomass potential from forests and overgrowing areas - Accessibility of forest and potentials from overgrowing areas - With increased use, we preserve the cultural landscape and increase food and energy self-sufficiency <ul style="list-style-type: none"> - Good equipment - The established traditional use of wood fuels - No major administrative restrictions in forest management in protected areas <ul style="list-style-type: none"> - Existing subsidies for switching to wood biomass heating 	<ul style="list-style-type: none"> - Fragmented forest estate - Uninterested forest owners - High costs of cutting the overgrowing areas and silvicultural works <ul style="list-style-type: none"> - The green chips market is not developed - Awareness of decision makers for switching to wood biomass heating is too low - Forest owners are not organized and connected (Association of forest owners does not exist in this area) <ul style="list-style-type: none"> - Unorganized timber market - Large quantities of exported wood
Opportunities	Threats
<ul style="list-style-type: none"> - Many public buildings suitable for heating on wood fuels - Low prices of wood fuels compared to other fuels <ul style="list-style-type: none"> - Rural Development Programme encourages the cleaning of overgrown areas to maintain the grasslands - Creating new green workplaces - Improve favorable conservation status of Natura 2000 habitat types and species 	<ul style="list-style-type: none"> - Gasification of the area (competition to wood fuels) <ul style="list-style-type: none"> - Decline in the price of other alternative fuels - Increase in labour prices - Unavailability of workforce - Impoverishment of forest soil due to high biomass outtake

9.3.4. IMPACT

For what and when does the Action Plan implement?

The Action plan implements to the whole biomass wood chain in the area in question in wider sense, and to the specific barriers, defined in the document D 3.3.1. – “Barriers and potential solutions”.

The implementation period is foreseen for each of the tackled barriers, in accordance with the time frame of the implementation of the necessary actions, which need to be carried out to overcome the barriers and improve the whole wood chain situation.

What is expected to be achieved in the short-medium and long term?

In the short-medium period the focus and effort will be put on the barrier no. 1 – the fact that the small forest owners are not connected/associated has negative effect on many aspects of wood biomass production chains. Meetings with forest and land owners will be organised and establishment of forest owners’ association is foreseen.

In the medium term all the other barriers are to be tackled, namely, plan for re-establishment of agricultural land and cultural landscape to protect and preserve specific habitats and species of Natura 2000 network is foreseen and involvement of the stakeholders will be carried out to communicate the plan. Also, involvement and communication with the forest owners is foreseen in the midterm interval, to provide additional education and ensure better understanding of the connections along the biomass wood chain. Forest owners are to be actively included into the process of forestry management plan preparation, Forest Management plans for the property level will be offered as a possibility. The midterm time frame includes connecting wood biomass producers and consumers – establishment of biomass wood chain and increase the need for biomass supply as well.

In the long term also, a cooperative is to be established to enhance the economic aspect of the forest management, for marketing forest and agricultural products and organise forest and agricultural operations. The protected area can implement the plan to re-establish cultural land on a larger scale.

An important long-term goal to be achieved is preparation of new projects for investments in new biomass plants and finding sources for their co-financing.

What is the expected impact?

The expected impact is established biomass wood chain, with strong connection between links in the chain - from local forest and land owners, through market to the local end users, especially bigger public consumers. As a result, local needs for the wood pellets and wood chips will increase, shortening the chain, contributing to new income at farms, new jobs creations, higher energy independency and lower transport emissions. The primary task in achieving the wider expected impact is the organisation of forest owners within the association, to improve forest management of the privately-owned forest and to mobilise wood potentials in general but especially wood biomass for energy purposes.

9.3.5. RESPONSIBILITIES

Whom is the Action Plan addressed?

The action plan is addressed to all the stakeholders in the biomass wood chain in the pilot area. From the forest owners, to the support organisations and professional institutions who can contribute to the increased forest management and the public institutions, that could be heated on locally produced wood biomass. It is addressed also to decision makers and developers in the pilot area that could speed-up the process of further development of the whole region, taking in to careful consideration all nature protection and conservation issues.

Who is the responsible to implement it?

The implementation of the action plan is the responsibility of all the institutions, named in the tables under chapter 5. – “Proposed new regulatory framework and permit in protected areas” as follows: regional development agency, Chamber of Agriculture and Forestry of Slovenia, Slovenia Forest Service, Ministry of Agriculture, Forestry and Food, local communities from the area and administration of the protected areas.

According to wide variety of actions foreseen in next chapter a leader of the implementation process should be determine. According to the fact that actors from forestry agriculture, nature protection, wood biomass, energy sector and decision makers from 5 local communities should work together in different actions one coordinator is crucial and we believe that Regional development agency is the one that should take the leading role.

9.3.6. PROPOSED A NEW REGULATORY FRAMEWORK AND PERMIT ROUTE IN THE PROTECTED AREAS OF SLOVENIA

B1. SOCIAL BARRIER: SMALL FOREST OWNERS ARE NOT CONNECTED/ASSOCIATED AND NOT INTERESTED IN ACTIVE FOREST MANAGEMENT

Specific barrier	Why	Solution	How to tackle the barrier	With who
SB1.1 Forest owner's association (FOA) does not exist	There was no strong initiative for establishment of forest owner's association in the past	Establishment of forest owner's association	A1: Establishment of forest owners association	Slovenian forest service, together with local development agency and local community
SB1.2 Small forest owners have low interest in active forest management	Low available cut, small amount of harvested wood, high costs of forest operations and low income from forests	Establishment of forest owner's and land owner's cooperative that would offer common forest/land management and marketing of forest/agricultural products	A2: Establishment of forest and land owners cooperative	Newly established forest owner's association, together with existing "Machinery ring association", forest/land owners

B2. SOCIAL BARRIER: SMALL FOREST AND AGRICULTURE PARCELS, WHICH RESULT IN HIGHER OPERATIONAL COSTS

Specific barrier	Why	Solution	How to tackle the barrier	With who?
SB2.1 Overgrowing of agricultural land	Higher costs of agricultural activities, land owners are not connected, low interest for agricultural activities	Development of forest owner's and land owner's cooperative that would offer common forest/land management – lower costs of operations and higher income	A3: Removal of biomass on extensive overgrowth according to the plan and guidelines of hedge link and Institute of RS for Nature Conservation	Agricultural advisory service (Chamber of agriculture and forestry), regional development agency, "Machinery ring association",
SB2.2 Goals in forest management plans are not achieved in private forests	Higher costs of forest operations are leading to lower interest of forest owners to manage their forests		A2: Establishment of forest and land owners cooperative	Newly established forest owner's association, together with existing "Machinery ring association", forest/land owners

B3. *SOCIAL AND TECHNICAL BARRIER*: POOR INTEGRATION OF STAKEHOLDERS ALONG THE BIOMASS WOOD CHAIN

Specific barrier	Why	Solution	How to tackle the barrier	With who
SB3.1: Unwillingness for cooperation SB3.2: Forest owners do not see any financial benefits in biomass production. SB3.3: Unawareness of possibilities for organisational and cooperative structures establishment SB3.4: Public buildings do not have reliable sources of local wood biomass supply	<p>In the past this was organized by State Forest Enterprises. After they collapsed, there was no initiator that would organise the stakeholders and the biomass wood chain.</p>	<p>Establishment of organisational structures, associations or cooperatives of small forest owners.</p>	<p>A1: Establishment of forest owners association</p> <p>A2: Establishment of forest and land owners' cooperative</p> <p>A4: Support to small projects for local actors along biomass supply chains</p>	<p>Regional Development Agency (RDA) Green Karst, Chamber of Agriculture and Forestry of Slovenia (CAFS), Slovenia Forest Service (SFS)</p>

B4. *LEGISLATIVE BARRIER*: GOALS FROM FOREST MANAGEMENT PLANS ARE NOT REALISED

Specific barrier	Why	Solution	How to tackle the barrier	With who
SB4.1: Small forest owners SB4.2: poor funding of investments in forests	<p>Forest owners are not active or interested in the management as they do not see any financial benefits in it.</p> <p>In the past Forest Enterprises took care for implementation of Forest Management Plans. A special fund was financing the implementation of silvicultural works in all forests (private and state owned).</p>	<p>Motivating forest owners for implementation of silvicultural measures.</p> <p>Increase of available funds for financing investments in forests.</p> <p>Establishment of local forest owner associations.</p>	<p>A1: Establishment of forest owners association</p> <p>A2: Establishment of forest and land owners' cooperative</p> <p>A5: Providing increased resources for investments in forests</p>	<p>Chamber of Agriculture and Forestry of Slovenia (CAFS), Slovenia Forest Service (SFS), Ministry of Agriculture, Forestry and Food</p>

B5. *ECONOMIC BARRIER*: HIGH INVESTMENT COSTS IN BIOMASS HEATING SYSTEMS

Specific barrier	Why	Solution	How to tackle the barrier	With who
<p>SB5.1 Existing heating systems in the buildings are not amortised yet</p> <p>SB5.2 Lack of knowledge on wood biomass heating costs (policy makers)</p>	<p>In many public buildings liquefied petroleum gas (LPG) or heating oil is still used for heating. Households are still using the wood biomass for heating as large share of local people own forest or they buy wood from local producer. In the time of crisis, some of the households also changed other energy sources for heating for wood biomass.</p>	<p>To reach 80% of the energy needs for heating covered with wood fuels by switching public building to alternative energy sources.</p> <p>Promoting creation of public-private partnerships for the energy needs supply (energy source, investment costs).</p> <p>Using the possibilities to receive a subsidy for switching to alternative energy sources (Slovenian Environmental Public Fund).</p>	<p>A6: Promotion and support for wood biomass use in public buildings</p>	<p>Municipalities (and local energy agencies), Regional Development Agency (RDA) Green Karst</p>

SHORT CODE DESCRIPTION

SPECIFIC OBJECTIVES

- SO1: Establishment of local forest owner's association that will develop further in more market orientated legal form of cooperation (e.g. cooperative)
- SO2: Re-establishing agricultural land and cultural landscape to protect and preserve specific habitats
- SO3: Improving of forest ecosystems quality and stability
- SO4: Establishment of local/short biomass production chains
- SO5: Heating of public building with locally produced wood fuels

BARRIERS

- B1: Social barrier: Small forest owners are not connected/associated and not interested in active forest management
- B2: Small forest and agriculture parcels, which result in higher operational costs
- B3: Social and technical barrier: Poor integration of stakeholders along the biomass wood chain
- B4: Legislative barrier: Goals from forest management plans are not realised
- B5: Economic: High investment costs in biomass heating systems

SPECIFIC BARRIERS

- SB1.1 Forest owner's association (FOA) does not exist
- SB1.2 Small forest owners have low interest in active forest management
- SB2.1 Overgrowing of agricultural land
- SB2.2 Goals in forest management plans are not achieved in private forests
- SB3.1: Unwillingness for cooperation
- SB3.2: Forest owners do not see any financial benefits in biomass production
- SB3.3: Unawareness of possibilities for organisation of cooperative
- SB3.4: Public buildings do not have reliable sources of local wood biomass supply
- SB4.2: Poor funding of investments in forests
- SB4.1: Small forest owners
- SB5.1: Existing heating systems in the buildings are not amortised yet
- SB5.2: Lack of knowledge on wood biomass heating costs

ACTIONS

- A1: Establishment of forest owners' association
- A2: Establishment of forest and land owner's cooperative
- A3: Removal of biomass on extensive overgrowth according to the plan and guidelines of hedgelink and Institute of RS for Nature Conservation
- A4: Support to small projects for local actors along biomass supply chains

- A5: Support to forest owners to secure increased resources for investments in forests
- A6: Promotion and support for wood biomass use in public buildings

SPECIFIC ACTIONS

- SA1.1 Meetings of forest owners organised by Slovenian forest service and Regional development agency
- SA1.2 Identification of key person to lead the forest owner's association (FOA)
- SA1.3 Establishment of forest owner's association
- SA1.4 SFS staff active involvement in FOA activities
- SA1.5 Communication with forest owners
- SA1.6 Communication with biomass consumers
- SA1.7 Communication with forest owners and biomass suppliers (existing and new)
- SA1.8 Integrate the forest owners in the process of forestry management plan preparation
-
- SA2.1 Establishment of cooperative for marketing forest and agricultural products and organise forest and agricultural operations
- SA2.2 Awareness rising of potential consumers and producers of biomass about possibilities for preparation of projects
- SA2.3 Preparation of wood biomass projects
- SA2.4 Preparation of joint Management plans for the property level for interested forest owners
-
- SA3.1 Preparation of plan for re-establishing agricultural land and cultural landscape to protect and preserve specific habitats and species of Natura 2000 network
- SA3.2 Stakeholders involvement
- SA3.3 Pilot/demonstration actions
- SA3.4 Implementation of plan on larger scale
-
- SA4.1 Forest owners' education
- SA4.2 Preparation of business model for different stakeholders along biomass production chains
- SA4.3 Organisation of "Business to Business" (BtoB) meetings of stakeholders along local biomass production chains
-
- SA5.1 Proposal of increasement of available funds, especially for thinning (addressed to Ministry of Agriculture, Forestry and Food)
-
- SA6.1 Identification of priority buildings for switching to wood biomass use
- SA6.2 Preparation of pre-feasibility studies for biomass heating systems
- SA6.3 Creation of public-private partnerships
- SA6.4 Making agreements on long term supply with wood biomass

ABBREVIATIONS

CAFS : Chamber of Agriculture and Forestry of Slovenia

RDA Green Karst - Regional Development Agency (RDA) Green Karst

SFS - Slovenia Forest Service (SFS)

FOA – Forest owner association

B1. SOCIAL BARRIER: SMALL FOREST OWNERS ARE NOT CONNECTED/ASSOCIATED AND NOT INTERESTED IN ACTIVE FOREST MANAGEMENT

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B1	SO1	SB1.1	A1	SA1.1. <i>Meetings of forest owners organised by Slovenian forest service and Regional development agency.</i> Presentation of opportunities for forest owners' associations, among other also in biomass production and marketing. Develop the number and content of the meetings.	B2	x			1.000	Costs of organisation of meetings (regional development agency)	Meetings will have positive effect on forest owners – enabling discussions.	No of organised meetings
				SA1.2. <i>Identification of key person to lead the forest owner's association (FOA):</i> Make unformal and formal consolidations in local formal and unformal societies, to choose the best leader for the FOA.		x			0		Key persons are needed to start with the process of establishment of FOA.	No. of key persons identified
				SA1.3. <i>Establishment of forest owner's association:</i> Support in establishment of FOA (legal procedure, administrative procedure, elections of formal bodies of the association, kick-off meeting, ...).	B2		x		2.000	Costs for establishment of association (members fee)	Forest owners have higher interest in forest management.	No. of forest owners in the association
		SB1.2		SA1.4. <i>SFS staff active involvement in FOA activities.</i> Ask the SFS for help in the process with encouragement of forest owners and best practices presentation.	B2, B4		x		0		Forest owners have higher interest in forest management.	No. of forest owners starting with active FM
	SO1	SB1.2	A2	SA2.1. <i>Establishment of cooperative for marketing forest and agricultural products and organise forest and agricultural operations:</i> Support in establishment of cooperative ((legal procedure, administrative procedure, elections of formal bodies of the cooperative, first meeting, founding (paid in) capital ...), encourage members, finding funds for start – up, encourage local communities.	B2, B4			x	5.000	Members are responsible to secure capital for establishment of cooperative	Better price for agricultural and forest products and lower production costs.	Amount of agricultural and forest products marked trough cooperative

B2. SOCIAL BARRIER: SMALL FOREST AND AGRICULTURE PARCELS, WHICH RESULT IN HIGHER OPERATIONAL COSTS

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B2	SO1	SB2.2	A2	SA2.1. <i>Establishment of cooperative for marketing forest and agricultural products and organise forest and agricultural operations.</i> Support in establishment of cooperative (legal procedure, administrative procedure, elections of formal bodies of the association, first meeting, founding (paid in) capital ...), encourage members, finding funds for start – up, encourage local communities.	B1, B4			x	5.000	Members are responsible to secure capital for establishment of cooperative	Better price for agricultural and forest products and lower production costs.	Amount of agricultural and forest products marked trough cooperative
	SO2	SB2.1	A3	SA3.1. <i>Preparation of plan for re-establishing agricultural land and cultural landscape to protect and preserve specific habitats and species of Natura 2000 network:</i> Ask for guidelines for biomass removal from extensive overgrowth from IRSNC in all three types of overgrowth (hedgerow, bushes (mostly broadleaf) and coniferous (mostly pine)). Find a company, which will prepare the plan.			x		50.000	Local communities, RDA Green Karst	Plan for long term management of agricultural land.	Prepared plan
				SA3.2. <i>Stakeholders involvement:</i> Encourage FOA, RDA, Chamber of Agriculture and Forestry to join the process.			x		2.000	RDA Green Karst	Higher interest for management of agricultural land.	No. of participants at organised events/meetings
				SA3.3. <i>Pilot/demonstration actions:</i> Find the proper pilot area on the base of the highest interest of forest owners. Organise the whole wood chain from production of biomass to heating and re-establishment of agriculture land use. Pilot actions must pull other actors in the project area to join into the process later. Do not forget on volunteering, especially on removing cut biomass from the field.				x	20.000		Demonstration areas.	No. of demonstration sites
				SA3.4. <i>Implementation of plan on larger scale:</i> Share the results from pilot action to all stakeholders in the project area. Communication with all stakeholders, involvement all players into action, step by step, according to the weakest link. Enlarge volunteering on whole project area.				x	0	Land owners	Re-establishing agricultural land and cultural landscape to protect and preserve specific.	Surfaces (ha) of re-establishing agricultural land.

B3. SOCIAL AND TECHNICAL BARRIER: POOR INTEGRATION OF STAKEHOLDERS ALONG THE BIOMASS WOOD CHAIN

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B3	SO4	SB3.1	A1	SA1.5. <i>Communication with forest owners:</i> Workshops with forest owners (their associations and cooperatives) to promote biomass wood chain, informal communication on local level. Presenting opportunities for the consumption of biomass within the study area.	B1				4.000	RDA Green Karst, CAFS, municipalities	Increased biomass production Increased use of biomass in public buildings.	Increased production of wood biomass Increased share of locally consumed wood biomass within the study area, 80% of the energy needs for heating covered with wood fuels.
				SA1.6. <i>Communication with biomass consumers:</i> Promote biomass consumption, changing of heating resources from oil to biomass, promote applying for subsidies, encourage local communities to support public buildings to change heating system to biomass.	B2			X				
		SB3.2	A2						28.000	RDA Green Karst, CAFS, municipalities	Increased biomass production Increased use of biomass in public buildings.	Increased production of wood biomass Increased share of locally consumed wood biomass within the study area 80% of the energy needs for heating covered with wood fuels.
		SB3.3		SA2.2. <i>Awareness rising of potential consumers and producers of biomass about possibilities for preparation of projects:</i> Finding appropriate project programs, which (can) support this SA. Suggest the project programs holders to include the issue of biomass consumption and production in the program.	B1							
					B2			X				
				SA2.3. Preparation of projects for the biomass consumption and finding sources for co-financing.	B5							

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B3	SO4	SB3.1 SB3.2 SB3.3	A4	SA4.1. <i>Forest owners' education:</i> Connecting forest owners – organization of workshops, events.	B1		X		35.000	RDA Green Karst, CAFS, municipalities	Established local forest owner's association that will develop further in market orientated legal form of cooperation (e.g. cooperative).	At least one forest owner's association
				SA4.2. <i>Preparation of business model for different stakeholders along biomass production chains:</i> Identify stakeholders in the biomass chain. Preparation of business plans for stakeholders.								
				SA4.3. <i>Organisation of "Business to Business" (BtoB) meetings of stakeholders along local biomass production chains:</i> Organize meetings of all actors in the biomass wood chain. Important is establishment of connections between businesses. The number, content and participants will be determined later, according to the situation and possible problems.								
	SO5	SB3.4	A1	SA1.6. <i>Communication with biomass consumers:</i> Motivating stakeholders to make agreements on sale of wood biomass between forest owners and biomass consumers.	B1		X		4.000	CAFS, municipalities	Long term agreements to sale wood biomass between forest owners and biomass consumers.	3 agreements for local wood biomass supply for public buildings
				SA1.7. <i>Communication with forest owners and biomass suppliers (existing and new):</i> Promote local biomass wood chain, encourage local producers of biomass. Include this item into workshops and B to B meetings.								

B4. LEGISLATIVE BARRIER: GOALS FROM FOREST MANAGEMENT PLANS ARE NOT REALISED

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B4	SO3	SB4.1	A1	SA1.8: <i>Integrate the forest owners in the process of forestry management plan preparation:</i> Workshops for forest owners (education). Active communication with forest owners in the process of forestry management plan preparation.					45.000	RDA Green Karst, CAFS, SFS	Increased share of implemented measures – especially thinning (it is less attractive due to low financial benefit but represents a source of biomass)	Higher share of implemented silvicultural and protective measures set in forest management and silvicultural plans 3 property level plans are prepared
			A2	SA2.4. <i>Preparation of joint Management plans for the property level for interested forest owners:</i> Identification of the stakeholders interested in joint management planning. Taking an initiative to prepare Forest Management plans for the property level.			x					
		SB4.2	A5	SA5.1. <i>Proposal of increase of available funds, especially for thinning (addressed to Ministry of Agriculture, Forestry and Food):</i> Prepare the proposal based on argument of synergies of renewable energy use and forest ecosystem improvement. Activate forest fund for the operations in Natura 2000 sites.					0	Ministry of Agriculture, Forestry and Food	Increased share of implemented measures – especially thinning (it is less attractive due to low financial benefit but represents a source of biomass).	Increased amount of wood biomass

B5. ECONOMIC BARRIER: HIGH INVESTMENT COSTS IN BIOMASS HEATING SYSTEMS

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B5	SO5	SB5.1 SB5.2	A1	SA1.5. <i>Communication with forest owners:</i> Workshops with forest owners (their associations and cooperatives) to promote biomass wood chain, informal communication on local level.	B1, B3		X		8.000	RDA Green Karst, CAFS, municipalities	Increased biomass production Increased local use of biomass in public buildings	80% of the energy needs for heating covered with wood fuels
				SA1.6. <i>Communication with biomass consumers</i> Connecting wood biomass producers and consumers – establishment of biomass wood chain.								
			A6	SA6.1. <i>Identification of priority buildings for switching to wood biomass use:</i> Increase the need for biomass supply (switching public building consumption to alternative energy sources).	B1, B3		X		160.000	RDA Green Karst, CAFS, municipalities	Increased biomass production Increased local use of biomass in public buildings	80% of the energy needs for heating covered with wood fuels
				SA6.2. <i>Preparation of pre-feasibility studies for biomass heating systems:</i> Structuring of wood biomass market and management of it.								
				SA6.3. <i>Creation of public-private partnerships:</i> Promote public-private partnership as a good example from other existed partnership in the country.								
				SA6.4. <i>Making agreements on long term supply with wood biomass:</i> Encourage private partners from other existing partnership to spread their activities to the pilot area and invite public bodies in project area into similar partnership. Identify possible private partners in the region.								

9.3.7. REPRESENTATIVE CASE STUDY

Representative case study	
Context	<p><i>Projekt Support v okviru EGP mehanizma, se je odvijal na Pohorju, ki je od leta 2004 v precejšnji meri varovan z Natur 2000. Natura 2000 je evropsko omrežje varstvenih območij, katere glavni cilj je zagotavljanje ugodnega stanja določenih vrst in habitatnih tipov. Glavna grožnja na tem območju je zaraščanje travnišč, zato je cilj projekta izboljšati in ohraniti travnišča ter biotsko pestrost. Glavni razlogi za ogrožanje travnišč na Pohorju so opuščanje tradicionalne rabe tal (košnja, paša), razvoj turizma in smučarske dejavnosti (poškodbe travnišč zaradi teptanja snega s stroji), eutrofikacija (živina koncentrirana na enem mestu, vnos mineralnih gnojil) in neprimerna paša, ki uničuje travno rušo. Na projektnem območju Pohorja je evidentiranih 164,99 ha površin v zaraščanju. Cilji izvedenega projekta so bili povečati površino in izboljšati strukturo vrstno bogatih travnišč, zagotoviti trajno rabo travnišč in izboljšati življensko okolje ciljnih živalskih vrst (divji petelin, rušavec), ki so vezani na travnišča.</i></p> <p><i>Cilji so se izvajali:</i></p> <ul style="list-style-type: none"> - z vzpostavitvijo novih in razširitvijo obstoječih travnišč; - z odstranjevanjem zarasti s površin obstoječih vrstno bogatih travnišč (zagotoviti potrebno optimalno razmerje med šopi drevja, površinami borovničevja in travnimi površinami); - z ohranjanjem mravljišč in suhe lesne biomase; - z vzpostavitvijo postopnih, globokih prehodov med travnišči in gozdnimi površinami; - z organizacijo primerne rabe (paša, košnja), ki bo dolgoročno ohranila vrstno bogata travnišča. <p><i>Ukrepi so bili izvedeni v enoti Volovica – Turn v 5 enotah ukrepanja na skupaj 49,50 ha. V enotah kjer so bili izvedeni ukrepi so prevladovala predvsem gozdne površine (40,48 ha).</i></p> <p><i>Podobne dejavnosti potekajo tudi v naslednjem projektu Life to Grassland (Life + project).</i></p> <p>The project Support under the EEA mechanism was held in Pohorje, which has been covered in larger area by Natura 2000 since 2004. Natura 2000 is an European network of protected areas, the main objective of which is to ensure the favorable conservation status of certain species and habitat types. The main threat in this area is the overgrowing of grassland, which is why the goal of the project is to improve and conserve grasslands and biodiversity. The main reasons for endangering the grasslands in Pohorje region are the abandonment of traditional land use (mowing, grazing), the development of tourism and skiing activities (destruction of grasslands due to heavy snow machines), eutrophication (livestock concentrated in one place, introduction of mineral fertilizers) and inappropriate grazing that destroys grass. 164,99 ha of overgrowing areas were recorded in the project area. The objectives of the</p>

	<p>implemented project were to increase the area and to improve the structure of species rich grasslands, to ensure the permanent use of grasslands, to improve the living environment of the target species (capercaillie, grouse) that are bound to grasslands.</p> <p>The objectives were implemented by:</p> <ul style="list-style-type: none"> - establishing new and expanding existing grassland, -removing the vegetation (bushes, trees, shrubs) from the existing rich grasslands (providing the necessary optimal ratio between tree trunks, blueberry surfaces and grasslands), - preserving anthills and dry wood biomass, -establishing gradual, deep crossings between grasslands and wooded areas, - establishing appropriate land use (pasture, mowing), which will maintain the rich grasslands in the long term. <p>The measures were implemented in the Volovica - Turn unit in 5 units of action on a total of 49.50 ha. Areas were recorded mostly as forest (40, 48 ha).</p> <p>Similar activities take place within following on going project called Life to Grassland (Life+project)</p>		
Conflicts and impacts	<p>Conflicts:</p> <p>Private property</p> <p>The lack of interest by the owners</p> <p>Conflict between foresters and land owners</p> <p>Impacts:</p> <p>Reduction of overgrowth</p> <p>Conservation of grasslands</p> <p>Extraction of forest biomass from overgrowing areas</p>		
Consequences	Social	Environmental	Economic
	<p>Restored landscape</p> <p>Activity of the owners</p> <p>Raising the landowner awareness of the importance of grassland</p> <p>Possibility of use wood biomass for heating</p>	<p>Conservation of biodiversity</p> <p>Grazing will no longer be concentrated only in one area</p> <p>Reduction of overgrowth</p>	<p>Biomass utilized for wood fuels</p> <p>Lower annual maintenance costs of the established meadows comparing to costs of logging</p> <p>Own feed production for animals</p>

Scenario	Description*
Pessimistic	<i>All grasslands that are well managed now could go back to overgrowing. In 15 years we could get the same overgrown situation. The investment that was made would be wasted.</i>
REALISTIC	<i>Planned areas are not overgrown anymore, grasslands are well maintained.</i>
Optimistic	<i>Biomass gets removed of grasslands, more grasslands are established and get maintained, the idea gets widespread and is taken into consideration all over the country.</i>

"Realistic scenario"	
Number	Prioritization of actions linked with the case study
1.	Planning process was successful: all stakeholders were included (land owners, Forest Service, municipalities), owners were encouraged to remove biomass of overgrown grasslands. All planned areas were successfully managed, so the adoption of planning process is good decision.
2.	Execution of plan was successful: technologies used were efficient (manual and machine cutting, tractor forwarding), costs of removing biomass are high but they pay off on long term.
3.	The owners got wood from their forest; forest residues could be sold for biomass/wood chips/biofuel.

9.3.8. REFERENCES

D.3.3.1. Barriers and potential solutions for increasing biomass production in the protected areas

Akcijski načrt za izboljšanje stanja in zagotavljanje dolgoročnega ohranjanja travišč (Habitatni tip – 6230*) za gozd in druga gozdna zemljišča pod gozdno masko ter zaraščajoče površine v območju s pojavljanjem habitatnega tipa 6230* Vrstno bogata travišča s prevladujočim navadnim volkom (*Nardus stricta*) na silikatnih tleh na projektnem območju Pohorje. Zavod za varstvo narave – OE Maribor. 2016. 8-1-497/1-O-16/NDŠ, 111 str.

Strateške smernice za izboljšanje stanja in zagotavljanje dolgoročnega ohranjanja travišč (Habitatni tip – 6230*) za gozd in druga gozdna zemljišča pod gozdno masko ter zaraščajoče površine v območju s pojavljanjem habitatnega tipa 6230* Vrstno bogata travišča s prevladujočim navadnim volkom (*Nardus stricta*) na silikatnih tleh na projektnem območju Pohorje. Zavod za varstvo narave – OE Maribor. 2016. 8-1-497/1-O-16/NDŠ. 65 str.

Strokovne podlage za DS 3. Varstveni ukrepi na terenu, DEJ 3.3 Selektivno odstranjevanje zaraščenosti na traviščih. Projekt SUPORT – Trajnostno upravljanje Pohorja. Zavod za gozdove Slovenije, Območna enota Slovenj Gradec. 11 str.

9.4. SPAIN (VALENCIAN COMMUNITY)

Partners involved: Association of Forest Municipalities of the Comunitat Valenciana (AMUFOR) and Valencia Official Chamber of Commerce, Industry, Services and Shipping (COCINSV)

Pilot area: Caroig Massif (Macizo del Caroig), in particular and the Comunitat Valenciana, in general.

9.4.1. INTRODUCTION

Brief description of the study area

[EN] The study area is the “Macizo del Caroche” which has an area of 195.008,59 ha of which a promethium of 88,59% are classified as forests land according to the PATFOR (2013). The special areas of conservation included in the SCA are ES5233044 SAC Sierra de Malacara; ES5233011 SAC Sierra de Martés y el Ave; ES5233040 Muela de Cortes y el Caroche; ES5233012 SAC Valle de Ayora y Sierra del Boquerón; ES5233045 SAC Serra d'Enguera; ES5233044 SPA Serra de Malacara and ES0000212 SPA Sierra de Martés-Muela de Cortes.

Table 6: Protected areas within the municipalities, included in study area

Municipality	Alborache	Alzira	Anna	Ayora	Bicorp	Bolbaite
	204,25	534,09	64,98	6.075,66	12.901,62	2.462,28
	Buñol	Catadau	Chella	Cofrentes	Cortes de Pallás	Dos Aguas
	4.998,88	492,56	1.597,05	6.711,51	21.632,85	11.411,78
	Enguera	Guadassuar	Jalance	Jarafuel	la Font de la Figuera	Llombai
	19.746,24	23,60	7.137,65	6.265,75	2.541,40	1.033,60
Forest surface (ha)	Macastre	Millares	Mogente/Moixent	Montroi/Montroy	Navarrés	Quesa
	1.510,69	10.008,20	5.324,88	261,42	2.051,84	6.628,96
	Real	Requena	Siete Aguas	Teresa de Cofrentes	Tous	Turís
	198,65	9.909,37	1.008,14	8.080,27	9.741,50	267,61
	Vallada	Yátova	Zarra			
	1.456,66	10.030,97	364,17			

The representative case study is based on the municipality of Enguera which are included in the SAC ES5233044 Serra d'Enguera (8.120,18 ha) and in the SPA ES0000212 Sierra de Martés-Muela de Cortes.

It is noted that the Action Plan can be replicable to other Natura 2000 protected areas in the Valencian Community.

The detail of the study area can be found in D.3.5.1

Justification:

In D.3.3.1 the key barriers were studied at the Mediterranean and regional level. Concretely, in this Action Plan the studied barriers are the following:

- (1) Long-time and complexity of authorization for the extraction of biomass in protected areas (Forest management and forest harvesting & logistics).
- (2) Lack of synergies and coordination among the administrative levels (local, subregional, regional and national in the territories included in the protected areas. (Thermal/electrical energy conversion).
- (3) The fragmented ownership of private forest, the inadequate organisation and the lack of interest in biomass production (Forest harvesting).
- (4) Reticence to use biomass in protected areas: production function is not balanced with conservation function (Forest management).

The situation is the lack of forest management and security to guarantee local incomes at long term (1). There is no awareness about the benefits derived from forestry operations and certain local conservation groups question whether these activities are really necessary (4). In addition, the intensity of legal restrictions increases, at the same time as the surface of forest stands and, nowadays, there is none that regulates forest management in the region (1).

Furthermore, the lack of empathy with the administered entails diffuse guidelines with arbitrary resolutions or to an indefinite stoppage whose consequences are the loss of rural employment, frustration and discouragement (2). In the current forest instruments is emphasized the direction of management “to maturity” of forests which is ambiguous and has subjective interpretations, more when the approval of forest professionals has not been taken into account (4). Therefore, the situation derived from a lack of solid, coherent and objective basis for the technical instruments for forest management is a decrease of a forest biomass demand whose situation is aggravated by the high pressure exerted during the forest harvesting (3).

Therefore, it is necessary to establish formulas as the public-private cooperation, to mobilize the biomass in a sustainable and active way, as well as the encouragement of agroforestry cooperatives and associative management.

Breve descripción del área de estudio:

[ES] El área de estudio del “Macizo del Caroche” tiene una superficie de 195.008,59 ha de las cuales un promedio de 88,59% están clasificadas como terreno forestal según el PATFOR (2013). Las zonas de especial conservación representadas son: ES5233044 ZEC Sierra de Malacara; ES5233011 ZEC Sierra de Martés y el Ave; ES5233040 Muela de Cortes y el Caroche; ES5233012 ZEC Valle de Ayora y Sierra del Boquerón; ES5233045 ZEC Serra d'Enguera; ES5233044 ZEPA Serra de Malacara and ES0000212 ZEPA Sierra de Martés-Muela de Cortes).

Tabla 7: Áreas protegidas en los municipios, incluidos en el área de estudio

Municipio	Alborache	Alzira	Anna	Ayora	Bicorp	Bolbaite
	204,25	534,09	64,98	6.075,66	12.901,62	2.462,28
	Buñol	Catadau	Chella	Cofrentes	Cortes de Pallás	Dos Aguas
	4.998,88	492,56	1.597,05	6.711,51	21.632,85	11.411,78
	Enguera	Guadassuar	Jalance	Jarafuel	la Font de la Figuera	Llombai
	19.746,24	23,60	7.137,65	6.265,75	2.541,40	1.033,60
Superficie forestal (ha)	Macastre	Millares	Mogente/Moixent	Montroi/Montroy	Navarrés	Quesa
	1.510,69	10.008,20	5.324,88	261,42	2.051,84	6.628,96
	Real	Requena	Siete Aguas	Teresa de Cofrentes	Tous	Turís
	198,65	9.909,37	1.008,14	8.080,27	9.741,50	267,61
	Vallada	Yátova	Zarra			
	1.456,66	10.030,97	364,17			

El estudio de caso representativo se basa en el municipio de Enguera, que se incluye en ZEC ES5233044 Serra d'Enguera (8.120,18 ha) y en la ZEPA ES0000212 Sierra de Martés-Muela de Cortes.

Se destaca que el Plan de Acción puede ser replicable a otras áreas protegidas Red Natura 2000 en la Comunitat Valenciana.

El detalle del área de estudio se puede encontrar en D.3.5.1.

Justificación:

En el informe D.3.3.1 se analizaron las barreras clave tanto para el área Mediterránea como a nivel regional. Concretamente, en este Plan de Acción las barreras estudiadas se refieren a:

- (1) Larga duración y complejidad en la autorización para el aprovechamiento de biomasa en áreas protegidas (gestión forestal y aprovechamiento forestal y logística).

(2) Falta de sinergias y coordinación entre los niveles administrativos (local, subregional, regional y nacional) en los territorios incluidos en las áreas protegidas (conversion a energía térmica/eléctrica).

(3) Propiedad de bosques privados fragmentada, organización inadecuada y falta de interés en el aprovechamiento de biomasa (aprovechamiento forestal).

(4) Reticencia a aprovechar la biomasa en áreas protegidas: la función de producción no está equilibrada con la función de conservación (gestión forestal).

La situación es la falta de gestión forestal y seguridad para garantizar los ingresos locales a largo plazo (1). No hay conciencia sobre los beneficios derivados de las actividades forestales y ciertos grupos locales conservacionistas cuestionan si realmente son necesarias (4). Además, la intensidad de las restricciones legales aumenta, al mismo tiempo que la superficie de las masas forestales y en la actualidad, no hay ninguna que regule la gestión forestal en la región (1).

Además, la falta de empatía con el administrado conlleva pautas difusas con resoluciones arbitrarias o un paro indefinido cuyas consecuencias son la pérdida del empleo rural, la frustración y el desaliento (2). En los instrumentos forestales actuales se enfatiza la dirección de gestión “hacia la madurez” de los bosques; ambigua y con interpretaciones subjetivas, más aún cuando no se ha tenido en cuenta la aprobación de los profesionales forestales (4). Por lo tanto, la situación derivada de la falta de una base sólida, coherente y objetiva para los instrumentos técnicos para la gestión forestal es una disminución de la demanda de biomasa forestal cuya situación es agravada por la alta presión ejercida durante el aprovechamiento forestal (extracción de biomasa) (3).

Por lo tanto, es necesario establecer fórmulas como la cooperación público-privada, movilizand o la biomasa de manera sostenible y activa, así como fomentar las cooperativas agroforestales y la gestión asociativa.

9.4.2. OBJECTIVES

Key message:

There is neither management without conservation, nor conservation without management – principle of the Valencian Forestry Platform (PFV)

General objective:

Increase of the socio-economic and environmental activity in rural protected areas through the valorization of the forest resources. To achieve it and regarding the conditions of the Mediterranean forests, it is required that the management is directed to obtain multi-products. Being focused on the benefits to use the forest biomass as energy, it has to take into account the effects in climate change due to the reduction of GHG emissions by the substitution of fossil fuels, the reduction of the energy dependence, the increase of energy efficiency and the risk management due to the sudden emissions of carbon into the atmosphere for forest fires. Therefore, the aim of this Action Plan is to overcome the barriers that difficult the subsidiary and sustainable forest management in order to reactive the use of forest biomass in the region, satisfying the necessities of the local population, at the same time that the forests are preserved.

Specific objectives:

SO1: To establish standardized Technical Instructions for Forest Management (TIFM) in the Valencian Community with normative character.

Context:

- Excessive environmental regulations, but there is no one that regulates forest management in the region.
- Increase of the intensity of legal restrictions, at the same time as the forest mass.
- The TIFM does not have the support of forestry professional associations. Therefore, there is a technical lack in the instructions.
- Administrative uncertainty: lacking empathy with the one administered by diffuse guidelines that lead to arbitrary resolutions or indefinite paralysis "frustration and discouragement".
- Lack of forest management: loss of rural employment, frustration and discouragement.
- Several updates of the technical management model: delay in forest management.
- Direction given to the forest management instruments: "unidirectional" sense; the management of the forests is directed "at maturity".
- Lack of security between the one administered and the administrator due to not having a solid, coherent and objective basis of the TIFM «decrease in forest demand whose situation is aggravated by the high pressure exerted during the forest harvesting»
- The participation of technicians in these instruments is unknown.

Moreover and in order to ensure the correct forest management and harvesting, the region has to have consensual and single guidelines to control these tasks which are in charge of the environmental agents.

Expected results:

- Forest standardized instruments which serve as the basis to elaborate forest management projects in synergy with the management of protected areas: balance between conservation and production.
- Consensual and single guidelines to control forestry operations, defining qualitative and quantitative indicators.

Involved entities: Forestry Professional Associations, public administration, environmental agent associations, public and private forest owners.

Time frame:

- Short term: Standardized instruments.
- Medium term: clear guidelines (quantitative and qualitative level)

SO2: To elaborate and implement a communication plan that serves as a basis to quantify the benefits of the use of biomass to prevent forest fires, to improve ecosystems quality and resilience and to mitigate climate change.

Context

- Fragmented private forest ownership and inadequate organization.
- Lack of interest in the valorisation of energy from forest biomass.
- Reticence to utilize biomass in the protected areas
- Administration malfunction "there is a resistance to change and specifically there is" antifoestalism "» - Lack of WILL.
- Incompetence and ignorance whose cause and effect are forest fires and depopulation.
- It is necessary to define a communication strategy (with motives) in which there is a cause-effect feedback "persuasion". In the persuasion, it is found the communication at the tactical level and it must be developed at the operational level. Therefore, there are three levels of planning: strategic, tactical and operational.

Specifically, there is an absence of a solid communication plan at the local/regional level which shows the socio-economic possibilities of having an agroforestry activity at the local level to improve ecosystems quality and resilience and to mitigate climate change, in addition to explain the benefits of establishing a public-private cooperation, as well as agroforestry cooperatives and associative management.

Therefore, it is required to create a communication plan directed to all stakeholders explaining the strengths and opportunities derived from the implementation of a Sustainable Forest Management (SFM) and to disseminate it across schools, institutes, universities, as well as to promote the creation of active showrooms, to organise visits of good forest practices, etc.

Involved entities: PFV, social media, AMUFOR, University Polytechnic of Valencia (UPV), Forestry colleges, regional administration (Generalitat Valenciana -GVA) and Provincial governments (Castellón, Valencia and Alicante)

Time frame:

- Medium term: dynamisation course and communications plans, including trainings with schools, institutes and universities.
- Long term: showrooms and good forest practices.

SO3: To simplify the administrative procedures to elaborate and approve forest management plans in the Natura 2000 protected areas.

Context:

- Excessive time and complexity of the authorization for the use of biomass in the protected areas.
- Lack of synergies and coordination between administrative levels (local, subregional, regional and national) in the territories included in the protected areas.

The environmental restrictions difficult not only are in the forest management, but also in the establishment of local enterprises, even more when all the procedures are channelled by the regional administration.

The municipalities have to have independence to manage their forest, so it is required a protocol for delegation of powers of the Regional government (GVA) to local owners regarding the Public Utility Forest.

In addition, to facilitate the forest management in the protected areas to forest owners, respecting the legal normative and the objectives of the protective figures, as Natura 2000, it is propose to develop and define Models/Guidelines for the management of zones and species to be annexed to the Forestry Resources Management Plan, as a basis for the management projects, decreasing the important administrative burden due to the overlapping of protective figures.

Time frame:

- Medium term: Prototocol and models/guidelines.

9.4.3. SWOT ANALYSIS

Strengths	Weaknesses
<ul style="list-style-type: none"> - Legal forest associations which represent the ownership in the region. - Potential of using forest biomass. - There is a common interest to promote biomass projects (district heating,...) and there are real examples in the region. - Specialized enterprises in the sector. - Infrastructure to use the biomass. - Reduction of CO₂ emissions for the use of biomass instead of fossil fuels. - The use of biomass reduces the risk of forest fires, as well as the pests and diseases. - Technology developed to reduce costs during the forest inventory. - Existing subsidies which promote the use of renewable energies as forest biomass. 	<ul style="list-style-type: none"> - Fragmented forest ownership. - Lack of awareness about the benefits of the use of forest biomass as energy. - There is not an established market. - Low profitability of using forest resources. - Lack of prevention activities to reduce the risk of forest fires. - High restrictions to implement forest operations in Natura 2000 areas. - Lack of showroom and good forestry practices shown by the government. - Lack of standardized Technical Instruments to manage the forest with normative character. - Loss of agroforestry landscape. - Lack of demand of forest energy products. - Rural municipalities with a strong presence of aging population and high dependency rates.
Opportunities	Threats
<ul style="list-style-type: none"> - Reduction of the dependence due to the use of renewables energies (agroforest biomass). - Creation of green employment. - Avoid depopulation in rural areas. - Sustainable technology to install district heatings and boilers. - To conserve the forest stands with an active management. - To continue having subsidies for the sustainable forest management and fire prevention plans. 	<ul style="list-style-type: none"> - Uncontrolled bushfires. - Depopulation of the municipalities. - Appalling labour conditions. - Loss of primary activity. - Loss of biodiversity due to the lack of management. - High competitive market with other non-renewable energy sources.

9.4.4. IMPACT

For what and when does the Action Plan implement?

The Action Plan is elaborated with the aim to unblock the situation of the forestry sector in the Valencian Community “high interventionist from the regional administration and lack of awareness and knowledge about the necessity to do an integral and sustainable use of the forest resources”. Therefore, the Action Plan is done to overcome the barriers studied in D.3.3.1. Its implementation is foreseen in a short-medium and long term (from 1 to more than 5 years).

What is expected to be achieved in the short-medium and long term?

In a short-medium term, it is expected to define and professionalize the Technical Instructions for forest Management in the Valencian Community; to develop a consensual and single guidelines to control quantitative and qualitative forestry activities by the environment agents; to organise workshops for communication media on challenges of Sustainable Forest Management (SFM) - in this last action the second specific action (showrooms and good forest practices) is foreseen to implement it in a long term); to revitalize the forestry sector at the local level through courses and to make communications plans for schools, institutes... as well as for all the stakeholders represented in the entire forest value chain.

What is the expected impact?

The forestry sector represents an opportunity to avoid the rural depopulation, to enhance the local economy, as well as to improve the services offered by our ecosystems. Concretely, there are a wide list of the environment, social and economic opportunities arising from the use of the forest resources in the protected areas which entail the reactivation of the local economy (utilization/valorisation of forest biomass (from residue to product); silviculture as a tool to forest fire prevention; the improvement of the forest ecosystems and their services; population fixation - (in) direct employment; forest enterprises, local investors, reduction of the energy dependence, etc.), in addition to the reduction of the risk of bushfires through the mobilization of biomass. Moreover, it is needed low energy to mobilize it which means a great potential to use forest biofuels instead of non-renewable fuels.

So, the expected impacts are the recognition of the forestry sector and the engagement with it in order to active it through solid and coherence instruments to elaborate the forest management plans, to reduce the

administrative bureaucracy and finally, giving the opportunity to the rural and local areas to manage their own resources.

The recognition is associated with a hard work of communication about the benefits obtained through the application of a SFM; benefits in ecological, social and economic terms.

9.4.5. RESPONSABILITIES

Whom is the Action Plan addressed?

The Action Plan is addressed to all key actors included in the “Proposed of a new regulatory framework and permit route in the protected areas of the Valencian Community (Spain)”. **Each action has assigned a responsible who face the costs.** The list of the main stakeholders is:

- Public administration
- Forestry professional association
- Association of environmental agents
- Forest public and private owners
- Forestry Valencian Platform
- Association of municipal forests
- Universities
- Provincial governments
- Managers of the Protected areas
- Professional colleges in general (forestry, industrial, agronomists, biological...)

Who is the responsible to implement it?

All key actors included in the proposed Action Plan are responsible to implement it with the legal support of the regional and local administrations. A coordinator of the Action Plan is essential due to the multiple actions and entities involved in the Action Plan. Therefore and as agreed, AMUFOR is the entity which has the leading role in order to ensure the coordinator of all key actors involved in the regional Action Plan.

9.4.6. PROPOSED NEW REGULATORY FRAMEWORK AND PERMIT ROUTE IN THE PROTECTED AREAS OF SPAIN (VALENCIAN COMMUNITY)

B1. TECHNICAL BARRIER: LACK OF A SCIENTIFIC-TECHNICAL BASIS FOR IMPLEMENT THE FOREST PROJECT AND TECHNICAL PLANS IN THE NATURA 2000 PROTECTED AREAS.

Specific barrier	Why?	Solution	How to tackle the barrier	With who
B11: Lack of consensus on technical criteria and technical responsibilities among different professional groups (foresters, biologists, environmental).	New proposals for a new regulation do not have the support of forestry professionals.	To elaborate TIFM with a scientific-technical basis approved by forest experts and that it be an instrument with normative character.	A1: Definition and professionalization of the Technical Instructions for Forest Management in the Valencian Community.	Forestry professional association (COIM/COITF) and public administration
B12: Absence of consensual guidelines.	Lack of clarity in the control and sanction process.	Consensual and singles guidelines to control the forestry action To define criteria for sanctions and stoppages.	A2: Development of a consensual and single guidelines to control quantitative and qualitative forestry activities by environmental agents in the execution of the works (clearing, thinnings and final cuts)	Association of environmental agents and public administration, forest public and private owners.

B2. SOCIAL BARRIER: LOW AWARENESS AND PRESSURE FROM LOCAL CONSERVATION GROUPS THAT HINDER THE EXECUTION OF FORESTRY WORKS IN PROTECTED AREAS.

Specific barrier	Why	Solution	How to tackle the barrier	With who
B21: Social media does not have enough information.	Social communication is mainly directed to the urban population, with rural problems in a second plane; the media only appears in the case of forest catastrophes as forest fires.	Raising awareness about the current situation in rural livelihoods.	A3: Realization of workshops of the Valencian Forestry Platform (PFV) for communication media on challenges (strengths and opportunities) of sustainable forest management.	PFV and social media
B22: Lacking specialization of municipal technicians with forestry competences.	Forest competences assumed by environmental technicians, generally with a lack of forest knowledge.	Professionalization and specialization measures for municipal technicians in forestry activities.	A4: Development of courses to revitalize the forestry sector at the local level for forest and/or environmental technicians of the Valencian Community.	AMUFOR, UPV, COIM and COITF
B23: Lack of information and knowledge on the part of society.	The society is fundamentally urban (> 90%).	Awareness of the urban population.	A5: To elaborate tactical level communication plan - training and awareness - based on a working group for forest owners, forest enterprises/industries, biomass consumers and public entities in the rural areas.	PFV and concretely: AFOCACV, FEVAMA, Valencia Chamber of Commerce, AVACU, APROBI-CV, AMUFOR

B3. *LEGISLATIVE AND ADMINISTRATIVE BARRIER*: HIGH NUMBER OF PROTECTION AND OVERLAPPING FIGURES WHICH DIFFICULT THE FOREST MANAGEMENT, AS WELL AS EXCESSIVE AND COMPLEX ADMINISTRATIVE PROCEDURES.

Specific barrier	Why	Solution	How to tackle the barrier	With who
B31: Lack of trust between the regional and local administrations in forestry competitions.	Historic centralist trajectory in decision making. From the state to the regions but not from regions to local communities.	To apply the principle of Subsidiarity in forest management.	A6: To elaborate a protocol for delegation of powers of the Generalitat Valenciana to local owners' entities of Public Utility Forests.	GVA, AMUFOR, Provincial government.
B32: Overlapping of protective figures.	Excessive and sometimes contradictory environmental regulations.	Models/Guidelines	A7: Development and definition of Models/Guidelines for the management of zones and species to be annexed to the Forestry Resources Management Plan, as a basis for management projects.	Managers of protected areas , public administration, professional colleges (forestry, industrial, agronomists, biological,etc)

SHORT CODE DESCRIPTION

SPECIFIC OBJECTIVES

- SO1 To establish standardized Technical Instructions for Forest Management (TIFM) in the Valencian Community with normative character.
- SO2 To elaborate and implement a communication plan that serves as a basis to quantify the benefits of the use of biomass to prevent forest fires, to improve ecosystems quality and resilience and to mitigate climate change.
- SO3 To simplify the administrative procedures to elaborate and approve forest management plans in the Natura 2000 protected areas.

BARRIERS

- B1 *Technical barrier:* Lack of a scientific-technical basis for implement the forest project and technical plans in the Natura 2000 protected areas.
- B2 *Social barrier:* low awareness and pressure from local conservation groups that hinder the execution of forestry works in protected areas.
- B3 *Legislative and administrative barrier:* High number of protection and overlapping figures which difficult the forest management, as well as excessive and complex administrative procedures.

SPECIFIC BARRIERS

- SB11: Lack of consensus on technical criteria and technical responsibilities among different professional groups (foresters, biologists, environmental).
- SB12: Absence of consensual guidelines.
- SB21: Social media does not have enough information.
- SB22: Lacking specialization of municipal technicians with forestry competences.
- SB23: Lack of information and knowledge on the part of society.
- SB31: Lack of trust between the regional and local administrations in forestry competitions.
- SB32: Overlapping of protective figures.

ACTIONS

- A1: Definition and professionalization of the Technical Instructions for Forest Management in the Valencian Community.

- A2: Development of consensual and single guidelines to control quantitative and qualitative forestry activities by environmental agents in the execution of the works (clearing, thinnings and final cuts).
- A3: Realization of workshops of the Valencian Forestry Platform (PFV) for communication media on challenges (strengths and opportunities) of sustainable forest management.
- A4: Development of courses to revitalize the forestry sector at the local level for forest and/or environmental technicians of the Valencian Community.
- A5: To elaborate tactical level communication plan - training and awareness - based on a working group.
- A6: To elaborate a protocol for delegation of powers of the Generalitat Valenciana to local owners' entities of Public Utility Forests.
- A7: Development and definition of Models/Guidelines for the management of zones and species to be annexed to the Forestry Resources Management Plan, as a basis for management projects.

SPECIFIC ACTIONS

- SA11: Restart the established working group to reach a consensus among the professional groups involved.
- SA21: Anchoring definitive consensus instructions in normative.
- SA22: Working group to prepare new clear guidelines, agreed on quantitative and qualitative criteria.
- SA31: Dynamisation course.
- SA32: Showrooms and good forest practices.
- SA41: Communitation plan and training with schools, Institutes and Universities.
- SA51: Communication plan for forest owners.
- SA52: Communication plan for biomass industries.
- SA53: Communication plan for biomass consumers.
- SA54: Communication plan for public entities in rural areas.
- SA61: To establish a guideline to endow the municipalities with the competences of the management of the public forest use in their property.
- SA62: To assign responsibility for the execution of the projects to the municipal technician with forestry competences.
- SA71: Working group to establish guidelines for clear criteria and indicators for the affection of technical management plans in protected natural areas.

ABBREVIATIONS

COIM/COITF: Forestry professional association (Colegio Oficial de Ingenieros de Montes / Colegio Oficial de Ingenieros Técnicos Forestales)

DOGV: Diario Oficial de la Generalitat Valenciana - Official Journal of the GVA

GVA: Generalitat Valenciana

PFV: Plataforma Forestal Valenciana - Valencian Forestry Platform

TIFM: Technical Instructions for Forest Management

UPV: University Polytechnic of Valencia

B1. TECHNICAL BARRIER: LACK OF A SCIENTIFIC-TECHNICAL BASIS FOR IMPLEMENT THE FOREST PROJECT AND TECHNICAL PLANS IN THE NATURA 2000 PROTECTED AREAS.

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B1	SO1	SB11	A1	SA.1.1 Restart the established working group to reach a consensus among the professional groups involved	B32	X			2.000	GVA	Consensus among collectives of the TIFM instructions.	Agreement signed by all groups.
		SB12	A2	SA2.1. Anchoring definitive consensus instructions in normative			X		5.000	GVA	Drafting Instructions for publication in DOGV.	TIFM published in DOGV (Official Journal of the GVA)
				SA2.2. Working group to prepare new clear guidelines, agreed on quantitative and qualitative criteria.		X			3.000	GVA	Drafting guidelines for publication.	Guidelines published in DOGV.

B2. SOCIAL BARRIER: LOW AWARENESS AND PRESSURE FROM LOCAL CONSERVATION GROUPS THAT HINDER THE EXECUTION OF FORESTRY WORKS IN PROTECTED AREAS

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B2	SO2	SB21	A3	SA31. Dynamisation course.	B11, B31		X		10.000	COIM/COITF	Course of 100 hours	Participation of de 100 technicians.
		SB22		SA32. Showrooms and good forest practices.				X	80.000	PFV	1 showroom	Visited by, at least, 5.000 people/year.
		SB23	A4	SA41. Communication plan and trainings with schools, Institutes and Universities.			X		40.000	PFV	Presentation for awareness in training centers.	20 visits (=awareness session/year)

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B2	O.2	SB24	A5	SA51. Communication plan for forest owners	B22, B23		X		5.000	Association of forest private owners (AFOCACV)	Elaboration of communication plan.	Publication and dissemination to a minimum of 1.000 owners.
				SA52. Communication plan for forest industries			X		5.000	Forest enterprises (e.g. FEVAMA), Valencia Chamber of Commerce.	Elaboration of a communication plan.	Publication and dissemination to a minimum 200 enterprises.
				SA53. Communication plan for biomass consumers.			X		5.000	Association of consumers (AVACU) and forest biomass associations (APROBI-CV)	Elaboration of a communication plan.	Publication and dissemination to a minimum of 100.000 biomass consumers.
				SA54. Communication plan for public entities in rural areas			X		5.000	Association of municipal owners (AMUFOR)	Elaboration of a communication plan.	100 public entities in rural areas.

B3. *LEGISLATIVE AND ADMINISTRATIVE BARRIER:* HIGH NUMBER OF PROTECTION AND OVERLAPPING FIGURES WHICH DIFFICULT THE FOREST MANAGEMENT, AS WELL AS EXCESSIVE AND COMPLEX ADMINISTRATIVE PROCEDURES.

	SO	SB	AT	Specific actions	LB	Term			Budget €	Responsible to face the costs	Expected result	Indicator
						ST	MT	LT				
B3	SO3	SB31	A6	SA61. To establish a guideline to endow the municipalities with the competences of the management of the public forests use in their property.	B11, B12		x		5.000 (legal report)	GVA	Specific order/ Forest modification	Published in DOGV
				SA62. To assign the responsibility for the execution of the projects to the municipal technician with forestry competences.			x		5.000 (legal report)	GVA	Specific order / Forest modification	Published in DOGV
			A7	SA71. Working group to establish guidelines for clear criteria and indicators for the affection of technical management plans in protected natural areas			x		15.000	GVA	Consensual guideline with normative character	Published in DOGV

9.4.7. REPRESENTATIVE CASE STUDY

[ES] Proyecto de Ordenación Forestal de Enguera	
Contexto	<p>[Proyecto de Ordenación de los montes V075 "La Redonda", V072 "Los Altos" y "V074 Navalón" de Enguera (Superficie: 15.962 ha)]</p> <p>El proyecto obtuvo un estudio favorable derivado del estudio de esquejes para los hábitats y especies presentes en la Red Natura 2000. Sin embargo, los trabajos forestales se detuvieron debido a una barrera social. También, el enfoque institucional es considerado "incorrecto" ya que el municipio no tenía una comunicación directa con la empresa que está ejecutando las obras forestales.</p> <p><u>Procedimiento:</u></p> <p><i>2008:</i> Solicitud de subvención a la Comisión Europea para la redacción del proyecto de Ordenación de Montes LIFE + "bioenergy and fire prevention".</p> <p><i>2010:</i> Aprobación de la subvención.</p> <p><i>2013:</i> Redacción del proyecto. Inventario forestal, planificación e integración en Red Natura 2000.</p> <p><i>Junio 2013:</i> Aprobación por el Ayuntamiento de Enguera</p> <p><i>Septiembre 2013:</i> Aprobación por la Generalitat Valenciana. Informe favorable de la Red Natura 2000.</p> <p><i>Diciembre 2013:</i> Aprobación por la Comisión Europea.</p> <p><i>Junio 2014:</i> Procedimiento para la enajenación por subasta del aprovechamiento de biomasa. 8000 toneladas (T) anuales durante 15 años de plan especial.</p> <p><i>Tres (3) Anualidades estudiadas (2013-2014, 2014-2015, 2015-2016)</i> cuyas principales acciones fueron: ejecución de cantones de corta – seguimiento técnico del proyecto por la Generalitat Valenciana)</p>
Conflictos e Impactos	<p><u>Polémica generada:</u></p> <p>Superficie de actuación durante las 2,5 anualidades (800ha). Supuestas deficiencias en el aprovechamiento (30 ha) que supone menos del 5% de la superficie.</p> <p><u>Actuaciones posteriores:</u></p> <p>Decreto de alcaldía de fecha <i>9 de marzo 2016</i> proponiendo la paralización de las cortas.</p>

	<p><i>10 de marzo 2016:</i> resolución de la Dirección Territorial paralizando las cortas.</p> <p><i>30 de junio 2016:</i> propuesta de rescisión de contrato emitida por la Generalitat.</p> <p><i>Febrero de 2018:</i> finaliza el procedimiento de rescisión por parte del Ayto. de Enguera</p>		
Consecuencias	Social	Environmental	Economic
	Pérdida de más de 30 empleos.	Incremento de plagas de <i>Tomicus</i> (decaimiento de la masa forestal), mayor riesgo de incendios forestales.	Pérdida de ingresos derivado del aprovechamiento forestal con fines energéticos. Pérdida de ingresos anuales que se invertirían en mejoras en los MUP.

Escenario	Descripción
Pesimista	Pérdida de la actividad forestal el municipio.
Realista	Activar el Proyecto de Ordenación de Enguera a largo plazo.
Optimista	Activación del proyecto a corto/medio plazo

Proyecto de ordenación de Enguera: ESCENARIO REALISTA	
Nº	Priorización de acciones vinculadas con el estudio de caso.
1	Elaboración de planes de comunicación a nivel táctico – formación y concienciación – en base a un grupo de trabajo para propietarios forestales, industrias forestales, consumidores de biomasa y entidades públicas en el medio rural.
2	Realización de talleres de la PFV para medios de comunicación sobre retos (fortalezas y oportunidades) de la gestión forestal sostenible.
3	Desarrollo de cursos de dinamización del sector forestal a nivel local para técnicos forestales y/o medioambientales de la Comunitat Valenciana.
4	Definición y profesionalización de las Instrucciones Técnicas de gestión forestal en la Comunitat Valenciana y dotarlas de carácter normativo.
5	Elaboración de un protocolo de delegación de competencias de la Generalitat Valenciana a entidades locales propietarias de Montes de Utilidad Pública (M.U.P.)
6	Desarrollo de unas directrices consensuadas y únicas para el control de las actuaciones forestales de los agentes medioambientales en la ejecución de las obras (clareos, claras y cortas).
7	Desarrollo y definición de Modelos/Directrices de gestión de zonas y especies a anexar a los Planes de Ordenación de los Recursos Forestales (PORF), como base de los Proyectos de Ordenación de montes (PO) (o Planes Técnicos de Gestión Forestal - PTGF).

[EN] Representative case study: FOREST MANAGEMENT PROJECT OF ENGUERA

Context	<p>[Forest Management Project of V075 "La Redonda", V072 "Los Altos" and "V074 Navalón" of the municipality of Enguera (area: 15.962 ha)]</p> <p>The project obtained a favourable study derived from the study of cuttings for the habitats and species included in the Natura 2000 sites. Nevertheless, forestry works were stopped due to a social barrier. Also, the institutional approach is considered "incorrect"; the municipality did not have a direct communication with the enterprise which was executing the forestry works.</p> <p><u>Process:</u></p> <p><i>2008:</i> Application for a subsidy of the European Commission to elaborate the Forest Management Plan within the programme LIFE + - "bioenergy and fire prevention" Project.</p> <p><i>2010:</i> Approval of the subsidy.</p> <p><i>2013:</i> Drafting of the project. Forest inventory, planning and integration in the Natura 2000 sites.</p> <p><i>June 2013:</i> Approval by the Enguera City Council.</p> <p><i>September 2013:</i> Approval by the regional government (Generalitat Valenciana). Favourable report of the Natura 2000 sites.</p> <p><i>December 2013:</i> Approval by the European Commission.</p> <p><i>June 2014:</i> Procedures for the disposal by auction of the use of biomass. 8.000 tones (T) per year for 15 years of the special plan.</p> <p><i>Three (3) studied annuities</i> (2013-2014, 2014-2015, 2015-2016) whose main actions were: execution of the compartment cutting. The technical monitoring of the Project was done by the Generalitat Valenciana.</p>
Conflicts and impacts	<p><u>Controversy generated:</u></p> <p>Area of the action during the 2,5 annuities (800ha).</p> <p>Alleged supposed shortcomings in the use (30 ha) that is less than 5% of the area.</p> <p><u>Subsequent actions:</u></p> <p>Mayor's decree dated <i>March 9, 2016</i>, proposing the suspension of the cuttings.</p> <p><i>March 10, 2016:</i> resolution of the Territorial Directorate paralyzing the cuttings.</p> <p><i>June 30, 2016:</i> proposal for rescission of the contract issued by the</p>

	Regional Government (Generalitat Valenciana)		
	<i>February 2018</i> : end of the termination procedure by the City Council of Enguera		
Consequences	Social	Environmental	Economic
	Loss of more than 30 jobs.	Increase of <i>Tomicus</i> pests (decay of forest stand), higher risk of forest fires.	Loss of income derivated of the valorization of forest biomass as energy. Loss of annual income that was invested in improvements in the public use forests.

Scenario	Description
Pessimistic	Loss of forestry activity the municipality
Realistic	Activate long-term the Forest Management of the public forest use of Enguera.
Optimistic	Activation of the project in the short/medium term

FOREST MANAGEMENT PROJECT OF ENGUERA "Realistic scenario"	
Nº	Prioritization of actions linked with the case study
1	To elaborate tactical level communication plan - training and awareness - based on a working group.
2	Realization of workshops of the Valencian Forestry Platform (PFV) for communication media on challenges (strengths and opportunities) of sustainable forest management.
3	Development of courses to revitalize the forestry sector at the local level for forest and/or environmental technicians of the Valencian Community.
4	Definition and professionalization of the Technical Instructions for Forest Management in the Valencian Community.
5	To elaborate a protocol for delegation of powers of the Generalitat Valenciana to local owners' entities of Public Utility Forests
6	Development of consensual and single guidelines to control quantitative and qualitative forestry activities by environmental agents in the execution of the works (clearing, thinnings and final cuts).
7	Development and definition of Models/Guidelines for the management of zones and species to be annexed to the Forestry Resources Management Plan, as a basis for management projects.

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