Questionnaire for Value chains - Prunings and Plantation Removal

Value chains : Prime mover and Main Characteristics

Stakeholder Type

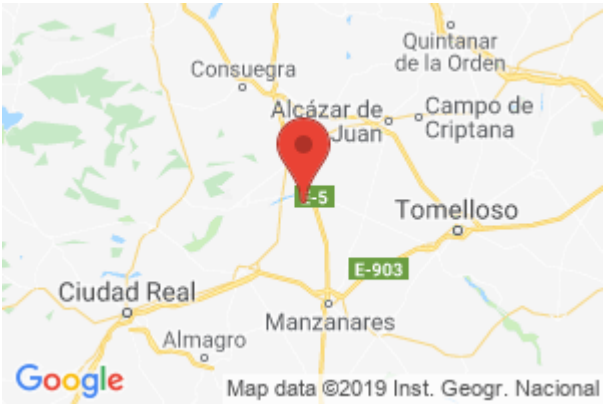
- [ ] Farmer
- [ ] Agrarian Cooperative
- [ ] Public Institution
- [ ] Agro-Services
- [ ] Final Consumer
- [ ] Farmer Association
- [ ] ESCO
- [ ] Agro Industry
- [ ] Pellet Producer
- [ ] Biomass Supplier
- [x] Electric power generation plant

Location of Prime Mover

Municipality : Villarta de San Juan

Latitude : 39.216823

Longitude : -3.442887



Type of Residue used in value chain

- [x] Pruning
- [ ] Plantation Removal
- [ ] Both

Crop Species used in Value Chain

- [ ] olives
- [x] vineyards
- [ ] apples
- [ ] pears
- [ ] peaches
- [ ] apricot
- [ ] nectarine
- [ ] plum
- [ ] cherries
- [ ] oranges
- [ ] tangerines
- [ ] lemons
- [ ] grapefruit
- [ ] hazelnuts
- [ ] chestnuts
- [ ] almonds

Total Plantation Area involved in the Value Chain (ha) _____

Typical APPR biomass production (tonnes/year) 5000

Start Date of the APPR value chain (Month-Year) 2018

Key success Factors in Value Chain

Keys of success

Select the key success factors of your value chain in scale 0-3. Then indicate the 3 most crucial factors.

Check as many as apply

Factor Group	Description	Check the influence in success:(0)-Not relevant;(1)-May have influenced;(2)-Important for success;(3)It was crucial;(?)-Unknown					Check the 3 most crucial factors in WHOLE table
		0	1	2	3	?	
Project	There was an important effort in determing the feasibility and planning prior starting the business	☐	☐	☐	☑	☐	☐
	The implementation of the chain considered the target consumers and their quality requirements	☐	☐	☐	☑	☐	☑
	Market was analysed, and contracts prepared prior start	☐	☐	☑	☐	☐	☐
		☐	☐	☐	☐	☐	☐
Product Quality	Biomass was labelled or certified according to existing standards	☐	☐	☐	☐	☐	☐
	The quality of the biomass product is object of an assurance process	☐	☐	☑	☐	☐	☐
		☐	☐	☐	☐	☐	☐
Community	Permanent crop plantations are quite extended. The use of the agrarian residues for biomass was regarded by community as quite beneficial	☐	☐	☐	☑	☐	☐
	There was an intense information campaign to promote social acceptance	☐	☐	☐	☑	☐	☑
	Argarian residues utilisation for energy was subject of debate by policy makers and/or by social groups in months, or years before the investment was done	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐

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		0	1	2	3	?	
Market	There was already a mature market of biomass	☐	☐	☑	☐	☐	☐
	There was a shortage of usual biomass resources	☐	☐	☐	☑	☐	☐
	There was a high increase of biomass demand (e.g. new power plants opened, increase og household biomass heating)	☐	☐	☐	☑	☐	☐
	The price of biomass locally rose, and made biomass residues of economic interest	☐	☐	☐	☑	☐	☑
	Target biomass market was stable and secure	☐	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐
Local Capacities	There was a recent reconversion of a sector (mining, metal industry etc.) leading to a high need of re-orientate economic activities. Biomass was one of the targeted new economic activities	☐	☐	☐	☐	☐	☐
	There was already service companies/persons with capacities to start new biomass chains on prunings/plantation removal	☐	☐	☑	☐	☐	☐
	There was a campaign of information for biomass procurement	☐	☐	☐	☑	☐	☐
	Pruning and/or agricultural residues were quite an issue in the course	☐	☐	☑	☐	☐	☐
		☐	☐	☐	☐	☐	☐

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		0	1	2	3	?	
Pruning Management	The management of the pruning/plantation removal is recognised to be expensive. Farmers found pruning for energy a good idea	☐	☐	☐	☐	☑	☐
	There were already experiences in mobilisation/treatment of prunings/plantation removal (pilot experience etc.)	☐	☐	☐	☑	☐	☐
	The high density of permanent crops plantations in the area	☐	☐	☐	☑	☐	☐
		☐	☐	☐	☐	☐	☐
Regulation	There is strict regulation making compulsory treatment/management of the residues	☑	☐	☐	☐	☐	☐
	Lobbying of stakeholder groups caused policy makers to promote changes in regulation	☑	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐

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		0	1	2	3	?	
Support	The subject of argarian residues for energy was subject of new supporting measures	☑	☐	☐	☐	☐	☐
	Enviromental regulations placed funds for subsidising partly pruning/plantation removal collection	☑	☐	☐	☐	☐	☐
	The biomass consumption sector leading to pruning/plantation removal utilisation was subject of recent support for expansion	☑	☐	☐	☐	☐	☐
	Availability of financial support (loan guarantees, green banks, etc.)	☐	☐	☐	☐	☑	☐
	There was a combined initiative supported for LIFE (or equicalent) programs (for GHG reduction, for improving competitiveness, etc.)	☑	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐

Policy	There were published plans and/or roadmaps for biomass utilisation (including pruning/plantation removal utilisation)	☑	☐	☐	☐	☐	☐
	There were clear objectives in mind of policy makers for utilisation of pruning or argarian residues	☑	☐	☐	☐	☐	☐
	Existence of public initiative as pioneer in pruning/plantation removal utilisation leading to investment in public infrastructure (e.g. private/public consortium to use pruning for heating in public schools)	☑	☐	☐	☐	☐	☐
	There were special taxation for the pruning/biomass (or agricultural residue) utilisation	☑	☐	☐	☐	☐	☐
	There was a public media campaign to boost utilisation of prunings/biomass (e.g. in common by various city councils, or various countries)	☑	☐	☐	☐	☐	☐
	The use of pruning/plantation removal was integrated with other enviromental/public strategies (e.g. landscaping conservation of vineyar scenery)	☑	☐	☐	☐	☐	☐
	There was a ban to burn agricultural residues by open fires	☑	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐

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		0	1	2	3	?	
Logistics Chain	There were pre-existent collaborations established between farmers sector and biomass cosumers/traders	☑	☐	☐	☐	☐	☐
	The introduction of new technologies (machine, handling systems, logistic chain) supported the implementation of new chains	☐	☑	☐	☐	☐	☐
	Private investment for entepreneurs was incentivised	☐	☐	☐	☐	☑	☐
		☐	☐	☐	☐	☐	☐

Short summary of the initiative (<100 words)

Summary of the value chain

Since 2016, ENCE has made a turn around in its supply strategy, betting on more local biomass,of agricultural or agroindustrial origin, and which had hardly any use at present and represented a management problem for most farmers. ENCE has made a commitment to the re orientation of its supply, dedicating an important effort.This radical shift has been facilitated by the high availability of agricultural biomass in the area, as well as the work of alignment of actors in the agricultural sector to release different types of agricultural residues.

ENCE Enemansa

VALUE CHAIN ACTORS		Farmers	Farm cooperative / agro productive organization	Agro services Company	Techno-logistics services in agriculture	Biomass energy plant builder /dealer	Energy service company	Biomass consumer / energy user
VALUE CHAIN PROCESSES	APPR biomass producer	1						
	Harvesting & conditioning			2				
	Biomass 1st haulage/ Transport			2				
	Pretreatment & Storage							3
	Biomass further processing							3
	Biomass transport							
	Energy conversion							3

1 Farmers 2 Agro Services Company 3 ENCE Enemansa

Fuel Specifications

Final form of Biomass prior to Exploitation

- [ ] Bales of branches
- [x] Hog fuel-shredded
- [ ] Wood chips
- [ ] Pellets

Moisture content (%) : 40%

Max Content of Ash (% a.r.) :

Min LHV (kj/kg a.r.) :

Value Chain Details and Prices of fuels

End-users

- [ ] Self-consumption
- [ ] Public-private buildings
- [ ] Biomass to Market
- [x] Electric power generation plant 16 MWe
- [ ] Industrial heating
- [ ] Distributed heat networks

Distance between biomass production and its final use (km) : Up to 100 km (average is around 30-60 km)

Storage options

- [ ] On-farm storage
- [ ] Intermediate storage prior transporting to end user
- [x] Direct delivery and storage at final user
- [ ] No storage

Ownership of the APPR harvesting machinery

- [ ] Farmer
- [ ] Leasing
- [ ] 3rd party-private
- [x] Agro service company
- [ ] Farmer's community
- [ ] Municipality-public

Prices of fuels sold to final consumers

- ☐ Price of APPR biomass (€/t) _____
- ☐ Price of regular woodchips (€/t) _____
- ☐ Price of ENPLUS pellets (bulk-€/t) _____
- ☐ Price of domestinc heating gasoil (€/l) _____

Have you filled the questionnaire about mechanized pruning/plantation removal ? ☐ Yes ☐ No

If yes, please provide the name or e-mail you have used on that questionnaire _____

Contact Data

Name : _____

Email : _____

Phone : _____

Company/Organisation : Enemansa

Website (of the company or the APPR initiative) : www.ence.es/

Logo of the company : _____

Country : Spain

References-External links:Provide references on which the information is based on or highlight any comments

The following are the main keys that have allowed the initiative to be implemented and be successful:
- The change in the biomass support framework made that ENCE redirected its supply strategy (initially oriented towards the implementation of forest energy crops), looking for available resources in the short term.
- Quick reorientation of ENCE to include all types of agro biomass that until now were largely under utilized.
- Solvency and trajectory of ENCE as a biomass consumer, which generate confidence in the intermediate companies when facing new activities and investments (consumption of agrobiomass ensured to suppliers).
- High experience of ENCE in forest biomass logistics. The new agro biomass logistics is simpler than forestry, although it needs more speed to be removed from the field so that farmers can continue with their agronomic operations.
- Very high potential of agro biomass in the area.
- Existence of companies with knowledge and devices to mobilize agro biomass in the area (companies engaged in forestry work or previously dedicated to coal).
- ENCE's extensive knowledge of the biomass sector, as well as contacts with key agents in the area for its mobilization.
- Farmers are aware that they cannot continue to burn their residues. They prefer to use them for energy, as long as it does not cost them money.
External link: www.up-running.eu/wp-content/uploads/2019/05/4.-ENCE-presentacion-ence-bruselas-v7.pdf

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Photos