**Group discussion 2**

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Participants:

* [name]: Castillo de Canena, private mill
* [name]: president ANEO, organization of secondary industry/orujeras
* [name]: Oleocampo, cooperative
* [name]: Innovation and Transformation manager Biomass department CENER
* [name]: diputacion de Jaen
* [name]: researcher IFAPA de Granada

Some options and proposals from the participants:

Canena: benefits for farmers

IFAPA: large costs of olive production, can improve this by using new technologies

ANEO: new solution, diversification

CENER: propose technologies, funding is needed to develop. HTL is wet, higher temperature and higher pressure is needed.

Oleocampo: circular economy, less than 30 km distance, use of new technologies

Diputacion: Search for sustainability. Look for synergies between industry, local administration, municipalities. Greater reliability of the administration than of the companies.

**1. Biomass extraction**

**- Pruning**

Logistics, transport is a problem, also with big environmental costs

Already has a use

If it is always added to the soil, the growth of vegetation decreases.

It is a biomass that is generated once every 2 years

The small parcels are a problem, very decentralized. Change of mentality is needed, change that makes it possible to use other systems of cultivation (superintensive) that are more profitable

The CAP subsidy stimulates the use of pruning on the soil or cover crops. This could reduce the amount that is available as feedstock.

For the pruning (bigger pieces of wood), the olive mills could be a logistical centre. Use the energy.

Chipping of pruning in the olive grove can help reduce erosion and apply organic material in the soil.

**- Orujillo**

The price depends on the market, varies a lot (8-60), depending on the carbon emission price. If the price is high, it is burned to produce electricity

It is used to produce electricity, and for heating (own consumption in facilities). The problem is the quantity of emissions of CO2, that needs to be lower and lower.

The cement sector is consumer of this. There is instability in costs, need to take that into account because that could lead to lower availability.

**- Alperujo**

Logistics and transport: 70% water, conversion needs to take place nearby.

Drying using the sun could be possible, but that takes a lot of time (1 year)

In the orujeras, they do a ‘repaso’, the alperujo has 50% water content, but they generate a stream of waste water with a DBO that is very high, this is contaminating.

Integrate technologies in the industry (olive mills or orujeras), capable to reduce water and make use of the waste water.

For the pruning, the problem is logistic and transport. It will be impossible to chip and use ut.

Alperujo: big quantity of water. Reduce this moisture content with new processes to valorize this product.

Orujillo: instability of prices

**2. Biorefinery**

Is the orujillo available? The sector will demand more and more.

The legislation will influence this a lot. There is uncertainty about the regulation, but we need to continue and try something new.

Some participants think that orujillo needs to be used to generate energy (biogas) and another part thinks it needs to be used to make bioproducts.

**3. End product**

In this section the opinions are divided. Some think you need to produce energy products like biogas and others think bioproducts, bio fertilizers.

**4. By-products**

Social impact: The society is not aware of the by-products or residues. But if these are utilized better, this will generate more income.

A change is needed in the use of fertilizers. We need to increase the use of biofertilizers.

**5. Benefits**

If the olive mills have more income, this could be distributed among the farmers, to improve their situation.

Developing auxiliary industries, employment, economic and social benefits are generated in these areas

\* More time was needed to discuss the last topics