**Group discussion 1**

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Participants:

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**1. Extraction of biomass**

Some participants prefer to use pruning or orujillo as feedstock for the Biohub. They don’t prefer to use alperujo, because they don’t want to compete with the alimentation sector.

**- Pruning**

Advantages: biggest margin for valorization, because it is a by-product that is currently the least utilized. Using biomass is synonymous with biocircular.

Disadvantages: difficult to collect, especially in mountainous areas in Jaen. It takes up a large volume and is difficult to transport

**- Orujillo**

Advantages: big volumes available with bioactive compounds with high added value

Disadvantages:

**- Alperujo**

Advantages: Big volumes produced at the olive mills

Disadvantages: Occupies a big volume and has a large percentage of water (70%). Difficult and very expensive to transport.

All feedstock are seasonal, only generated a certain time a year. The plant should not be located further than 20-30 km from the place where biomass is generated. This is difficult in Jaen.

The cooperatives could have a crucial role. Large investments are needed. The farmers could cooperative, however, there is lack of awareness/consciousness about the value of by-products. This could change if there is an economic incentive for them.

Improvement in the use of by-products is needed. Techno-economic evaluation is needed. A great advantage could be a flexible biorefinery (possibility of treating several different biomasses). First, compounds with high added value could be obtained. With the waste generated in this first stage, it could be used to generate energy in different ways.

**2. Biorefinery**

Possible to locate this near to the orujera or olive mills, to minimize the transport and garatee the supply.

Disadvantage: Seasonality of biomass. There is little knowledge about HTL in the region. The costs, the processes, scale need to be evaluated.

Advantage: New technologies could provide higher valorization of the by-products of the olive trees.

There is a project called Biferoliva (UJA + ULeon + Castillo de Canena) to use pyrolysis to treat the residues from the olive production in the field. This is a mobile plant/system. This makes it possible to treat the biomass in a decentralized way so you don’t need to transport big volumes of biomass.

**3. End product**

Generate different products, with different value. You need to analyse the costs and benefits, and analyse the competition. Improve and optimize the extractable compounds and energy generation.

Most attendees prefer to produce products with high added value, especially if they are oriented towards health and well-being.

**4. By-products**

Biochar: substitution of artificial products (fertilizers)

Needs to be brought back to the soil, to improve the soil and add organic material.

Option to improve: use biochar in combination with microorganisms

Olive mills as centre to distribute this 🡪 logistic centre, creation of employment

**5. Benefits**

It needs to be clear what the benefits will be for the actors involved.

If the farmer receives an economic benefit, he/she will probably collaborate more easily to supply biomass. If the industrialization in the region is improved this will also generate more employment opportunities. There needs to be more awareness.