Laboratorial structure of the FEI University Chemical Engineering and others. Equipment available for the BIOVALUE project.

Characterization Laboratory 1 (LC1)

Gas Chromatographs with FID and MS (LC1)

High Pressure Liquid Chromatograph (LC1)

FT-IR (LC1)

Fuel Laboratory - LC2

Calorimeter - LC2

Laboratory of Catalytic Reactions (LR1)

In this laboratory, a process is being set up to evaluate commercial water gas displacement catalysts and chemical filters to be used in the purification and conditioning of gases obtained in the gasification of biomass. Based on these experiments, catalysts and chemical filters will be selected to be implanted in the pilot gasification unit.

At the present time, a renovation is being carried out to allow the installation of the equipment that we are designing. As soon as possible, it will be available for use.

The tests were designed to study the effect of gas composition (notably H2 / CO ratio), the type of catalyst, temperature and partial pressure of the gases. Kinetics model obtained with these data will be used to design bench and pilot reactor to be used in scaling up the processes.

Reactor Bench and Chromatographs in Line (LR1)

Preparation Laboratory - LP1

Solids Characterization Laboratory - LC3

Calorimeter (DSC) with thermogravimetric analysis (TG) - (LC3).

Porosity and specific area measurements (LC3)

Mechanical workshop

FEI`tasks in the project

- Evaluate commercial CO shift catalysts and chemical filters to be used in the purification and conditioning of the gasification biomass syngas to be used in pilot plant.

- Cooperation in tests carried out by IPT studying pyrolysis and gasification.

- Effect of the use of reducing gases in pyrolysis. Probably this will be done in a DSC/TG existing at FEI.

- Study of the properties of particles in the FEI. To understand the problems that occurred in feeding the bagasse in the pyrolyzer and gasifier.

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