Generation of clean energy from household waste at the PUCP

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A promising way for the energy generation without competing with food supplies is the flash pyrolysis or fast pyrolysis of biomass. It is a unique process which turns biomass solids waste into a relatively clean liquid, also called carbon neutrality or greenhouse gasses neutrality.

The purpose is to develop a flash pyrolysis process to transform biomass into a useful resource for energy production at a university. To this end, household waste will be collected at PUCP to select the best energy mix. Suitable material will be selected through the evaluation of physical and chemical parameters and will test the basic working conditions in the pyrolysis process optimization search.

Raw materials, preliminarily identified, are potato and banana peels, coffee grounds, grass clippings, rice and cooked chicken bones. Then, a reactor capable of receiving various raw materials assembled to conduct the first experiments with biomass will be designed. Regarding the first trials results, necessary changes will be done.

One of the main perspectives of this work is to have a simple process that can be replicated in other Peruvian universities.