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Cascade utilization of biomass waste for the production of high-quality BDF whose price is competitive to petro-diesel

Overall Goal of our study is to realize the effective measure for the mitigation of climate change, improvement of environmental pollution by cultivation-production-utilization of biomass energy, especially Biodiesel Fuel (BDF). We implement the project based on the following Outputs.

- 1. Establish the effective technology for selection of the varieties of high yield oil plants, suitable to soil conditions and climate of each region; application of advanced farming techniques to develop material zones for oil to produce biodiesel. Considering the Indirect Land Use Change.
- 2. Development of the green technology for BDF production and recovery by-products.
- 3. Establish green co-solvent one-phase and two-phase technology with high efficiency, less emission of waste and being able to eliminate toxin, the scale of 300-1000kg/batch for biodiesel production to reach and exceed VN standards ISO 7717-2007s to produce biodiesel from plant oils and animal fats with different free fatty acid (FFA) contents.
- 4. Establish technology for solvent recovery and purification of by-product glycerol (more than 99% purity) by microwave method and develop the technology to utilize purified glycerin for the fuel of fuel cell and additive for acceleration of photocatalytic hydrogen generation from water

Biography

Yasuaki Maeda has completed his PhD from Tokyo Institute of Technology in 1970 and postdoctoral studies from National Council Canada from 1977-1979. He was a professor in Osaka Prefecture University(OPU) from 1991-2005. He is now an emeritus professor and working as Guest Professor in OPU, VNU Hanoi and VNU Ho Chi Minh.

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