

Wood Waste Reduction

Location: Yolo County, CA

In-Country Partner Organization/Client: Yolo County Landfill website:

<https://www.yolocounty.org/community-services/planning-public-works/integrated-waste-management-division/central-landfill>

Project Background: The Yolo County Landfill is located in Woodland, CA and serves as the central landfill for City of Davis, Woodland, West Sacramento, Winter, and unincorporated portions of Yolo County. In addition to accepting trash from Waste Management and Recology Davis, the landfill offers a variety of recycling, upcycling, anaerobic digestion, biogas to energy, and hazardous waste disposal options. In an effort to more efficiently utilize waste, the Yolo County Central Landfill has been investigating various initiatives, technologies, and policy opportunities. The goal is to implement innovative solutions to both productively use and limit the environmental impacts of waste. Their goal is to minimize landfilling and increase diversion of material from landfill.

Project Problem Statement: A large portion of avoidable waste that ends up in landfills is wood which does not degrade. In the past, large portion of wood waste was accepted by the local biomass plants to generate power, but as power purchase agreements with PG&E expire G&E is no longer renewing these agreements. This has resulted in overabundance of wood waste and nowhere to recycle this wood waste. Although wood is biodegradable aerobically, there are much more productive uses for this type of waste. The Yolo County Central Landfill is looking at the feasibility of investing in equipment that will grind and press wood chips into pellets that can be sold and used for fuel or use the wood waste on-site in a wood gasifier for power generation. The pellets recycled from wood waste can be used in stoves, replacing the need for wood directly from forests thus reducing deforestation.

Project Goals and Objectives:

1. Feasibility Study
 - a. Investigate existing wood waste reduction techniques/technologies
 - b. Investigate pallet and gasification of wood waste options for on-site and generation power
 - c. Conduct a market analysis
2. Conceptual Design
 - a. Conduct prior art research on equipment needed and starting and running cost
 - b. Work with the client to determine design criteria
 - c. Make recommendations for D-Lab II
3. Design; Build; Test (D-Lab II)





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D-Lab