

## ASCENT Project 001

# Construction & demolition waste regional project

### University of Hawaii

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**Cost Share Partner:** University of Hawaii, State of Hawaii



### Objective:

Generate information and data needed to support regional supply chain analysis for SAF production from construction and demolition (C&D) waste feedstocks on the island of Oahu, Hawaii

### Project Benefits:

Availability of physicochemical properties of C&D feedstock available to project developers  
Analysis of feedstock temporal variability  
Equilibrium analysis of contaminants generated from feedstocks under gasification conditions  
Data on product gas contaminants to inform process design and techno-economic analysis (TEA)

### Research Approach:

Conduct C&D waste sampling campaign at PVT Land Co. landfill over the course of a year  
Analyze fuel sample properties relevant to thermochemical conversion technologies  
Conduct analysis with FactSage™ thermochemical equilibrium software to predict contaminants and their concentrations and phases to inform gasification system design  
Conduct benchscale gasification tests to determine product gas quality and yield, identify contaminants and their concentrations, identify operating difficulties

### Major Accomplishments (to date):

Completed sampling campaign and sample analysis; results summarized in publication  
Completed FactSage analysis, manuscript in preparation  
Two benchscale gasification tests completed; one draft report in hand

### Future Work / Schedule:

Complete benchscale gasification tests to produce data on gas quality, yield, and contaminants with year end target  
Begin contaminant removal work to inform process design and TEA analysis