

IT Committee

From: Shayne Agawa <Shayne.Agawa@co.maui.hi.us>
Sent: Friday, August 27, 2021 4:01 PM
To: IT Committee
Subject: IPT's Presentation for T-IT-45
Attachments: Hana Pilot Project Plan Presentation 082521.pdf

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Project Plan

PRIVATE AND CONFIDENTIAL

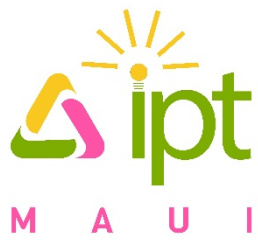
Innovative Power Technologies

Maui County, Hana Project



Overview

- ▶ Who is Innovative Power Technologies (IPT)?
- ▶ What is Gasification?
- ▶ What makes the CN2020™ Downdraft Gasification Technology Unique?
- ▶ Hana Pilot Project Plan
- ▶ Making the Pilot Project a Reality
- ▶ Pilot Project Plan Summary



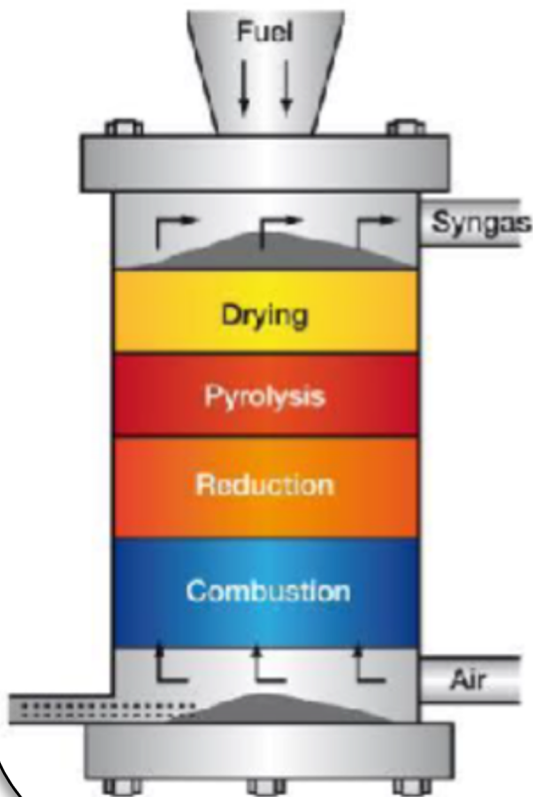
Who is Innovative Power Technologies (IPT)?

- ▶ Innovative Technology Development Company
- ▶ Manufacturing Operation in Thurston, Nebraska
- ▶ Patented CN2020™ Downdraft Gasification System

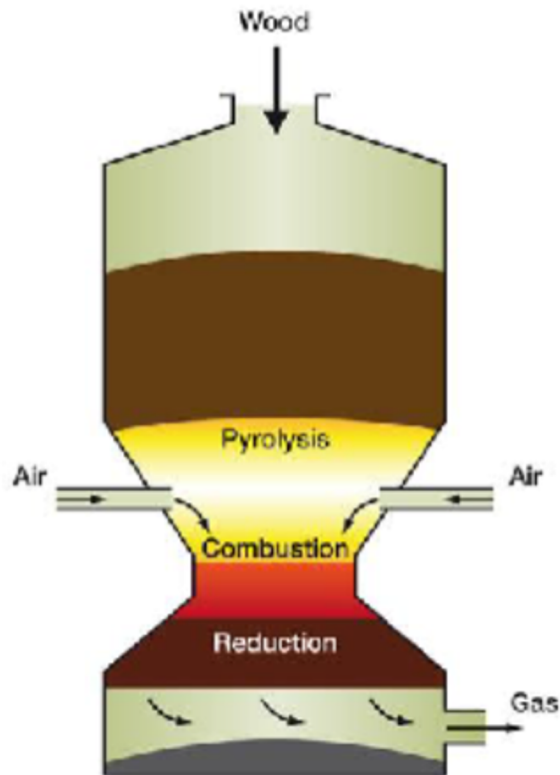
What is Gasification?

Types of Gasification

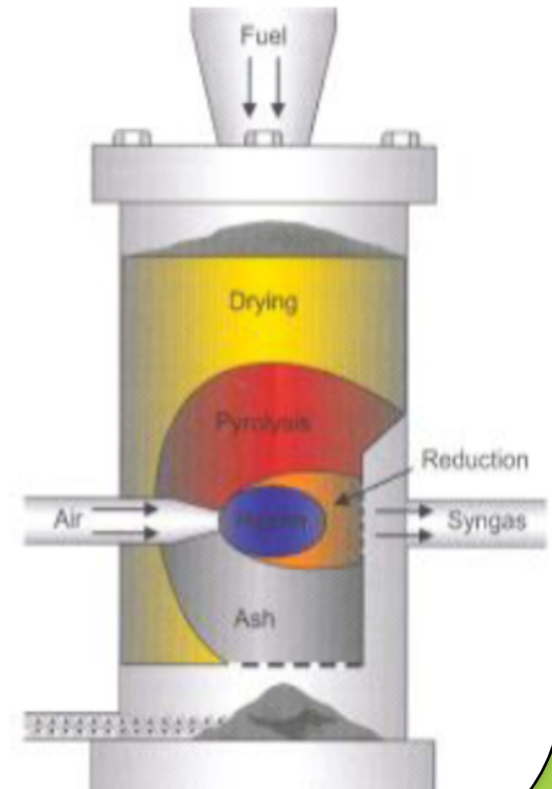
Up-draft



Down-draft



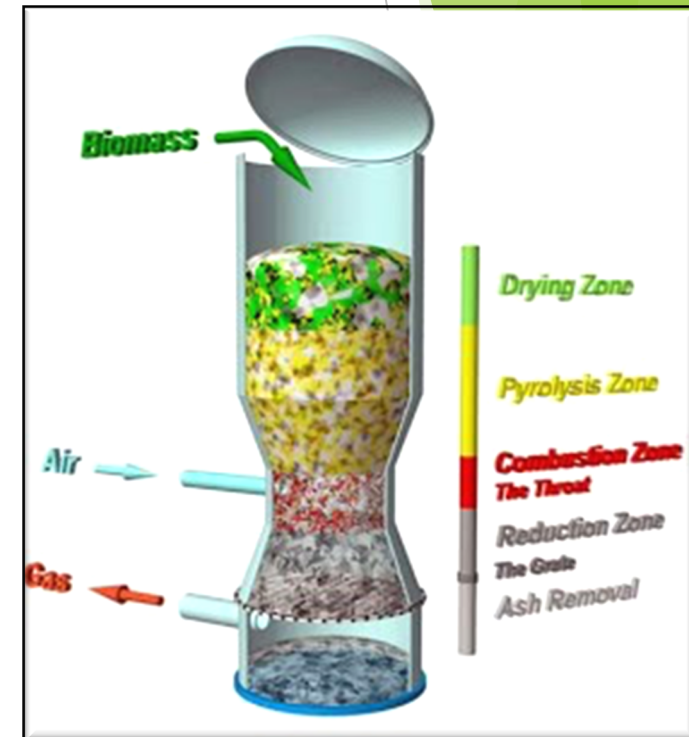
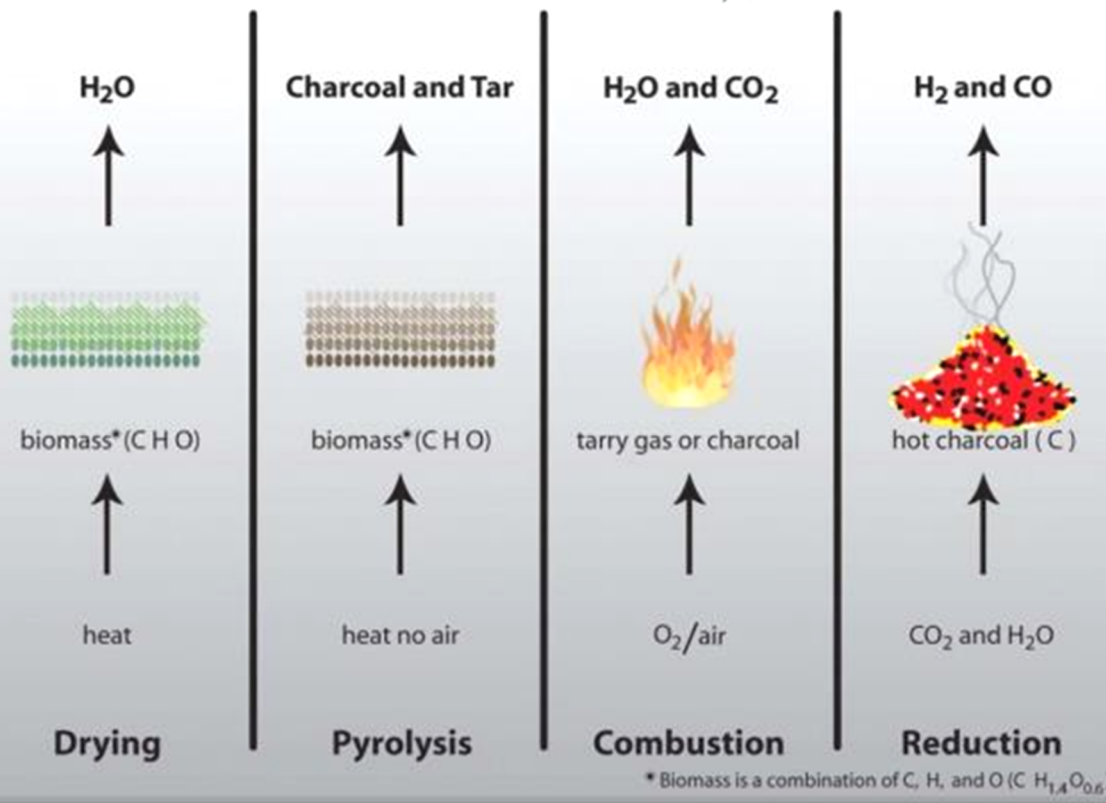
Cross-draft



CN2020™ Downdraft Gasification

4 Processes in Gasification

not necessarily in order

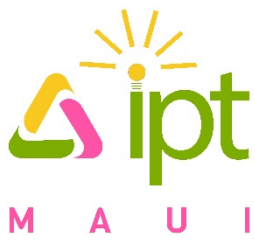


CN2020™ Downdraft Gasification

- Provides consistent, reliable, clean electricity
 - At the University of Iowa Research facility, the CN2020 provides energy for:
 - Data storage cooling
 - The cryogenics lab
 - Certain parts of the University Hospital
 - At Fox Converting in Green Bay, WI
 - At SolEco in Melbourne, Australia
 - At Innovator's Tama, IA facility



Pictured Above: Research unit at the University of Iowa



CN2020™ DOWNDRAFT GASIFICATION

Processing Defined

- ▶ Waste-to-Energy process, utilizing carbon-based biomass material
 - ▶ Converting Waste to Fuel
 - ▶ Converting Fuel to Energy
- ▶ The technology yields three byproducts:
 - ▶ Syngas (Producer Gas)
 - ▶ Precipitant Biochar
 - ▶ Fly Ash
- ▶ This patented technology is **the first and only Carbon Neutral to Carbon Negative process** on the market
 - ▶ The process functions at the highest level of Economic, Environmental and Operational efficiencies.



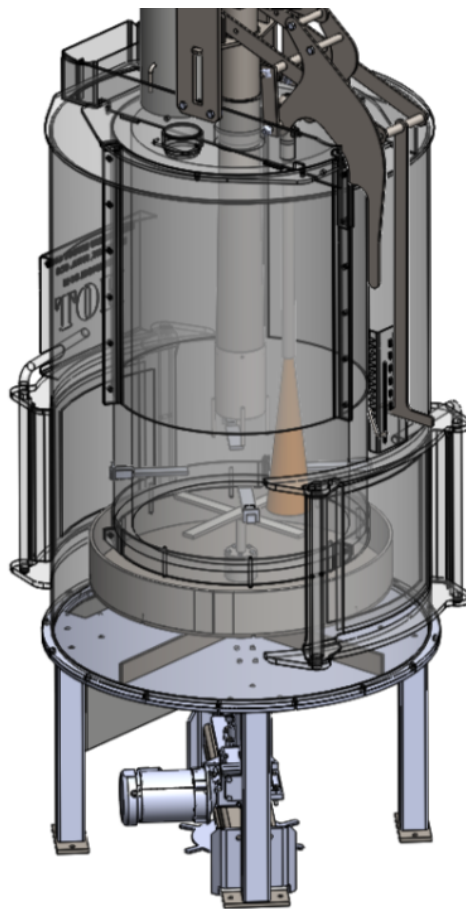
CN2020™ Downdraft Gasification

A photograph of an industrial facility, likely a gasification plant, with large storage tanks and piping. The image is slightly blurred and has a green tint. The text is overlaid in a yellow, serif font.

Independent Testing
confirmed only trace
amounts of CO₂, SO₂
and NO_x



CN2020™ Downdraft Gasifier





Hana Project Plan

- ▶ The Challenges

- ▶ Landfill Capacity
- ▶ Environmental Impact of current landfill

- ▶ The Solution...

- ▶ **The Carbon Negative CN2020™ Waste Elimination Gasification Process!**



Hana Project Plan

Throughput Material - Processing Defined

- ▶ Carbon Neutral to Carbon Negative Waste Disposal
 - ▶ Municipal Solid Waste (MSW): 2.7 Tons Per Day
 - ▶ Green Waste: 1 Ton Per Day
 - ▶ Total waste required = 3.7 Tons Per Day



Hana Project Plan

Benefits

- ▶ Environmental and Community Impact
 - ▶ The Hana Project, provides the following environmental benefits
 - ▶ Impacts Landfill Methane Emissions
 - ▶ Leaching
 - ▶ Soil Quality
 - ▶ Water Quality
 - ▶ Hazardous Waste Processing
 - ▶ Biochar byproduct applications
 - ▶ Water Filtration
 - ▶ Soil Amendment
 - ▶ Air Filtration



Making the Pilot Project a Reality

- ▶ Funding Conditions
 - ▶ Memorandum Of Understanding for Hana Pilot Project
 - ▶ Secure availability of throughput materials
 - ▶ Grant Agreement for project location

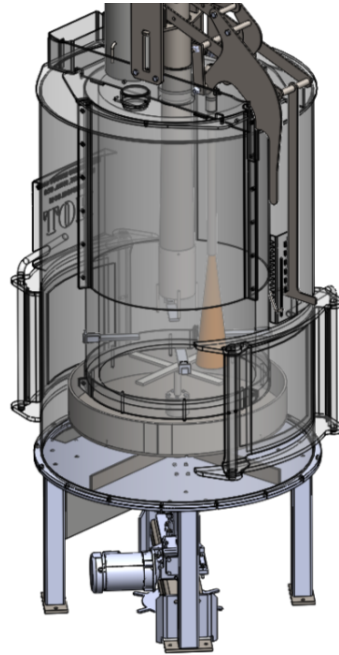


Pilot Project Plan Summary

- ▶ Let's Join Together to make Hana the first US location to process waste utilizing the first and only Carbon Neutral to Carbon Negative technology
 - ▶ The Challenge is in front of us
 - ▶ The Solution is on the table
 - ▶ Funding is set
 - ▶ Technology is proven
 - ▶ Project is ready
 - ▶ The table is now set
 - ▶ Let's work together and make this happen



Pilot Project Plan Summary



Thank you!