

Aloha Carbon Hawaii: Diverting Waste from Landfill and Recycling Into Fuel



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Simonpietri Enterprises LLC
January 2022**

About Us: Hawaii-based sustainability company

- Based out of Kailua, Hawaii
- 15 years old
- Experts in sustainable aviation fuel manufacturing, renewable integration, waste re-use, bioeconomy, and efficiency projects for heavy industrial processes
- Clients in mainland U.S., Canada, Australia, and Hawai`i
- Founder of new spin-out “Aloha Carbon”
- Funded by U.S. Environmental Protection Agency, Department of Energy, and Department of Agriculture
- Seeking community input to guide the project plan *before* we write the Environmental Assessment



One problem we are addressing:

~2000 tons of C&D waste landfilled each day on Oahu



- ❑ Nearly the same amount as the waste combusted to make electricity at H-Power
- ❑ Landfill is deeply unpopular, located near Hawaiian Homestead areas in Nanakuli
- ❑ About 40% of construction and demolition waste is waste lumber and wood
- ❑ Oahu needs a safe alternative for disposal, or illegal dumping goes up 8-10X

An aerial photograph of a landscape, likely a coastal or island area, with a wing and tail of an airplane visible in the foreground. The image has a warm, orange-brown color cast.

Another problem we are addressing:

The United Nations' International Civil Aviation Organization Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) requires

**carbon-neutral growth in
international civil aviation**

beginning in 2021

Including for flights to/from Hawai`i



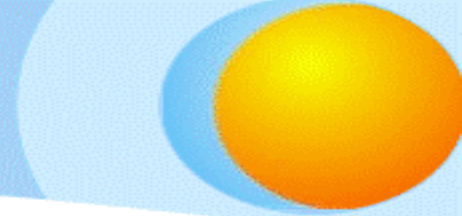
Need to address
Climate,
Waste,
AND community issues

This pile is just one day of the C&D waste wood landfilled on Oahu daily.

It needs to be properly handled and recycled/disposed somewhere. We could divert about 40% to make fuel, and reduce the impact of the waste hauling and disposal on the Nanakuli and Waianae coast communities communities.

MEMIYA MAYOR 20/20 AmemiyaForMayor.com
STEVE ALM PROSECUTOR
KAI KAHELE CONGRESS www.kaikahele.com
Nanakuli Ea
PVT 'A'ole PVT
Keiki o ka 'aina i ka pono
KAI KAHELE CONGRESS www.kaikahele.com
STEVE ALM PROSECUTOR

Our planned project: Recycle waste into low-greenhouse gas jet fuel and hydrogen



Separate



Gasify

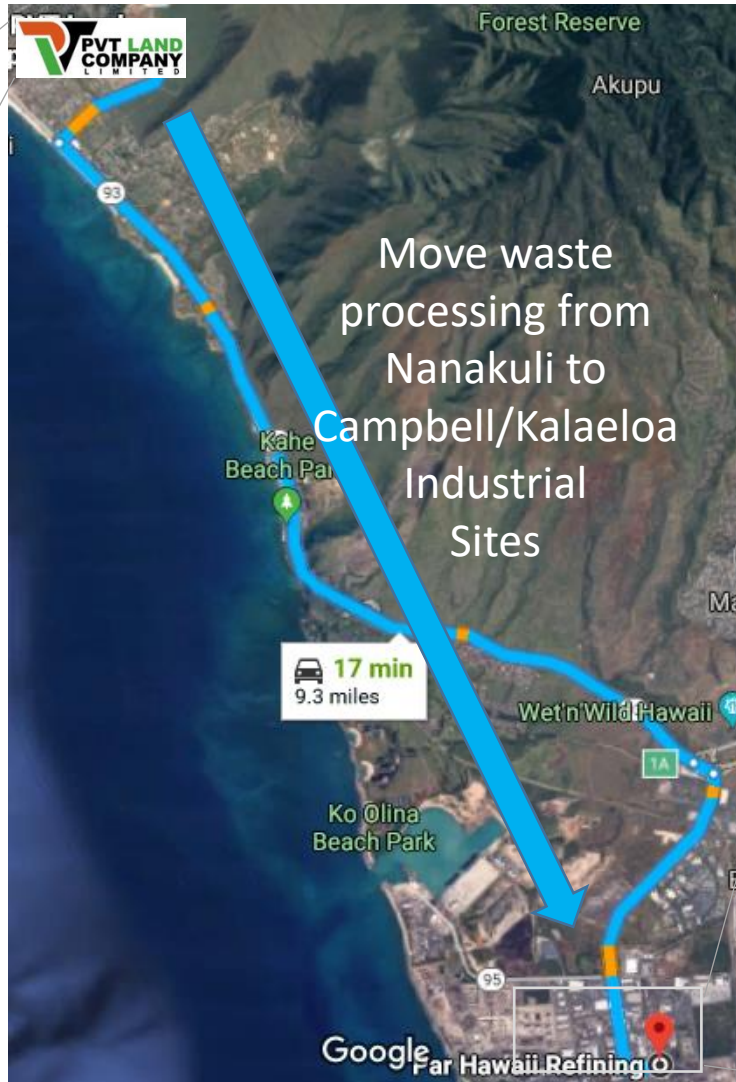


Refine





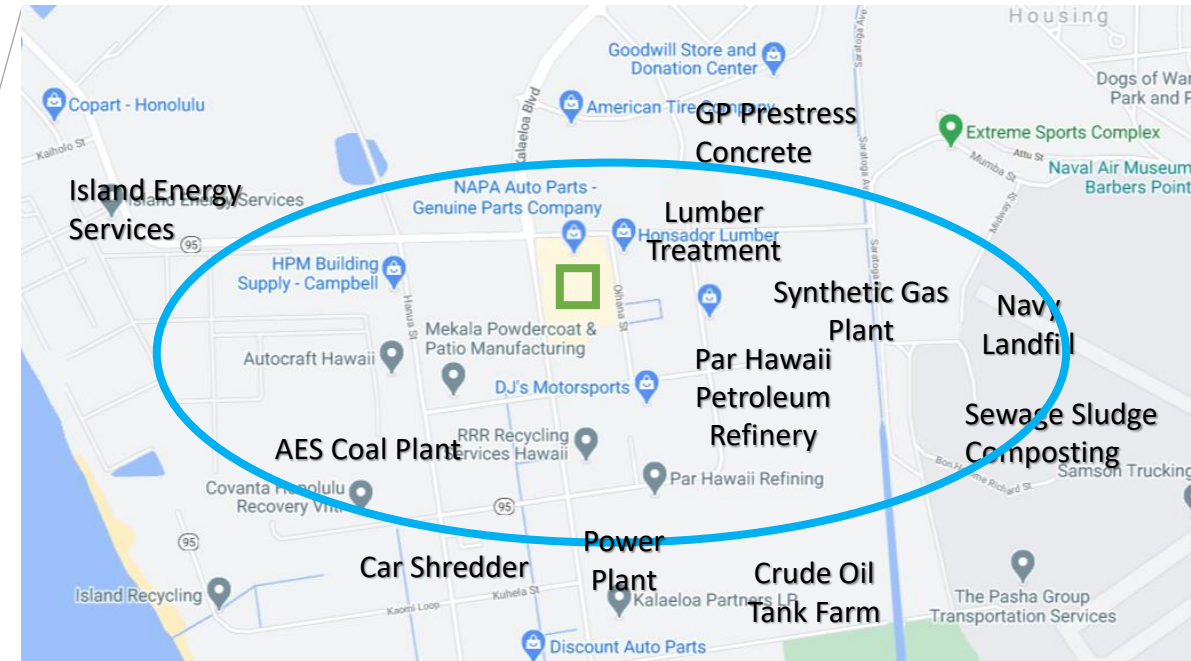
Use

Goal: Divert and remove C&D waste from landfill and residential area on Waianae Coast and shift to heavy industrial park



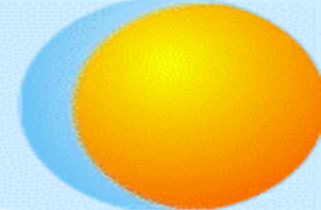
Desired relocation site:

-  Within Campbell / Kalaeloa Heavy Industrial area
-  Project Footprint: 5 acres (shown to scale below)

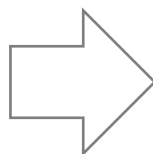


Site negotiations are highly sensitive

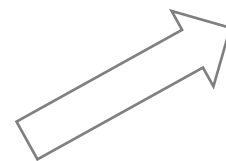
Aloha Carbon Products and Services



Waste receipt
recycling and
disposal



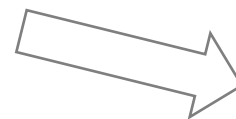
Waste conversion service



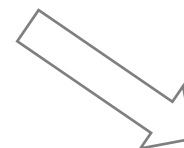
Sustainable Aviation Fuel



Renewable Natural Gas
& Green Hydrogen

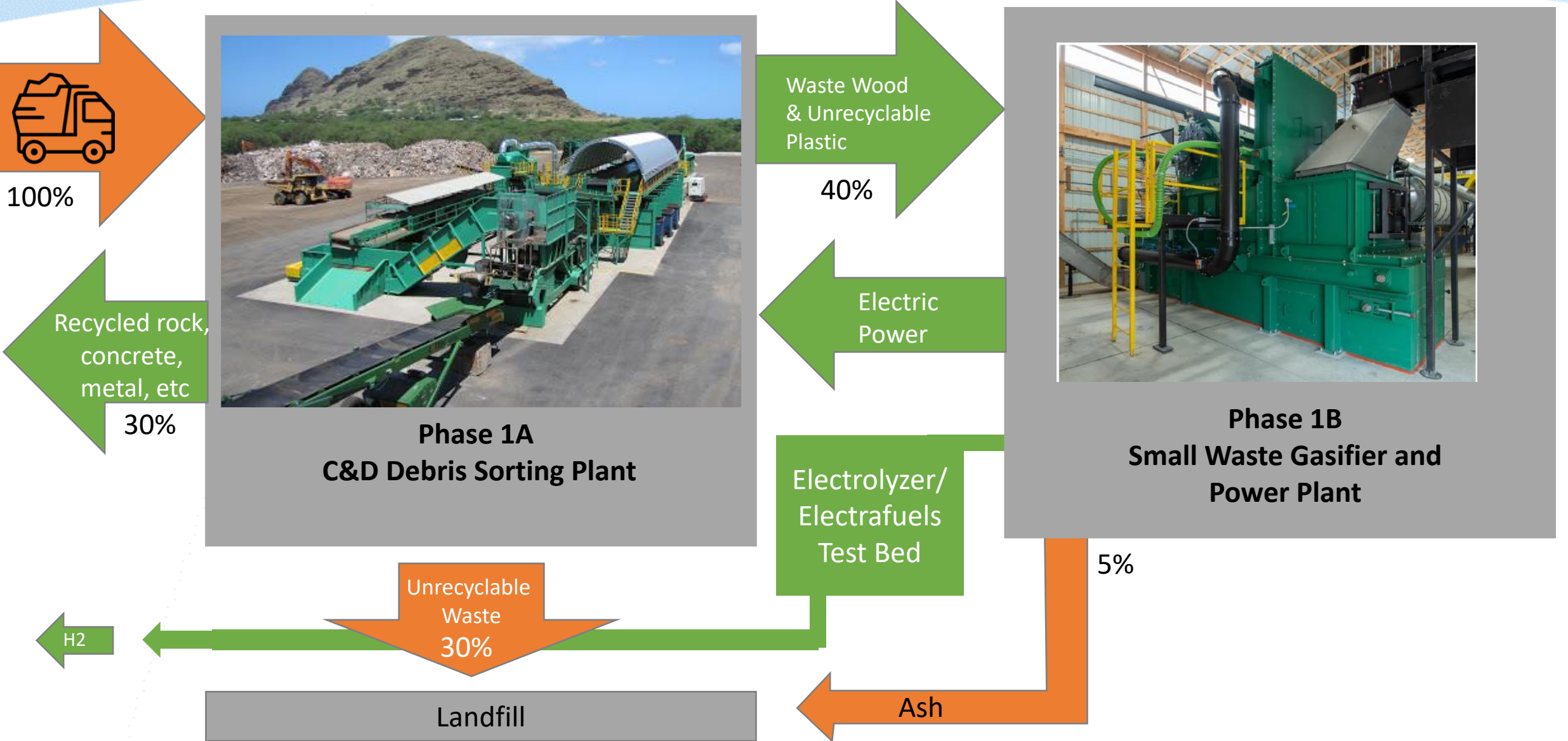
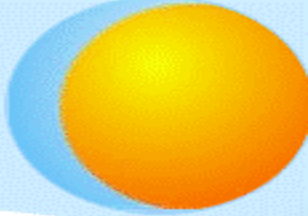


Certifiable carbon credits



Low-GHG building materials

Part 1: Self-Powered Sustainable Materials Recovery Facility (SMRF)



100%

Recycled rock, concrete, metal, etc
30%



**Phase 1A
C&D Debris Sorting Plant**

Waste Wood & Unrecyclable Plastic
40%

Electric Power



**Phase 1B
Small Waste Gasifier and Power Plant**

Electrolyzer/
Electrafuels
Test Bed

5%

H₂

Unrecyclable Waste
30%

Landfill

Ash

Part 2 Green Hydrogen and Sustainable Aviation Fuel

-- What this plant could look like



Omni Conversion Technologies, Ottawa, Canada

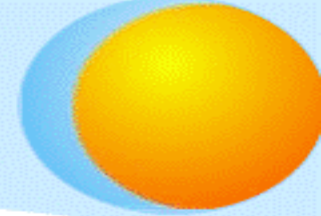
Performance guaranty by international firm AXA XL via New Energy Risk



**To be sited in Campbell Industrial Park /
Kalaeloa Opportunity Zone**

Very similar to existing intensive industrial facilities

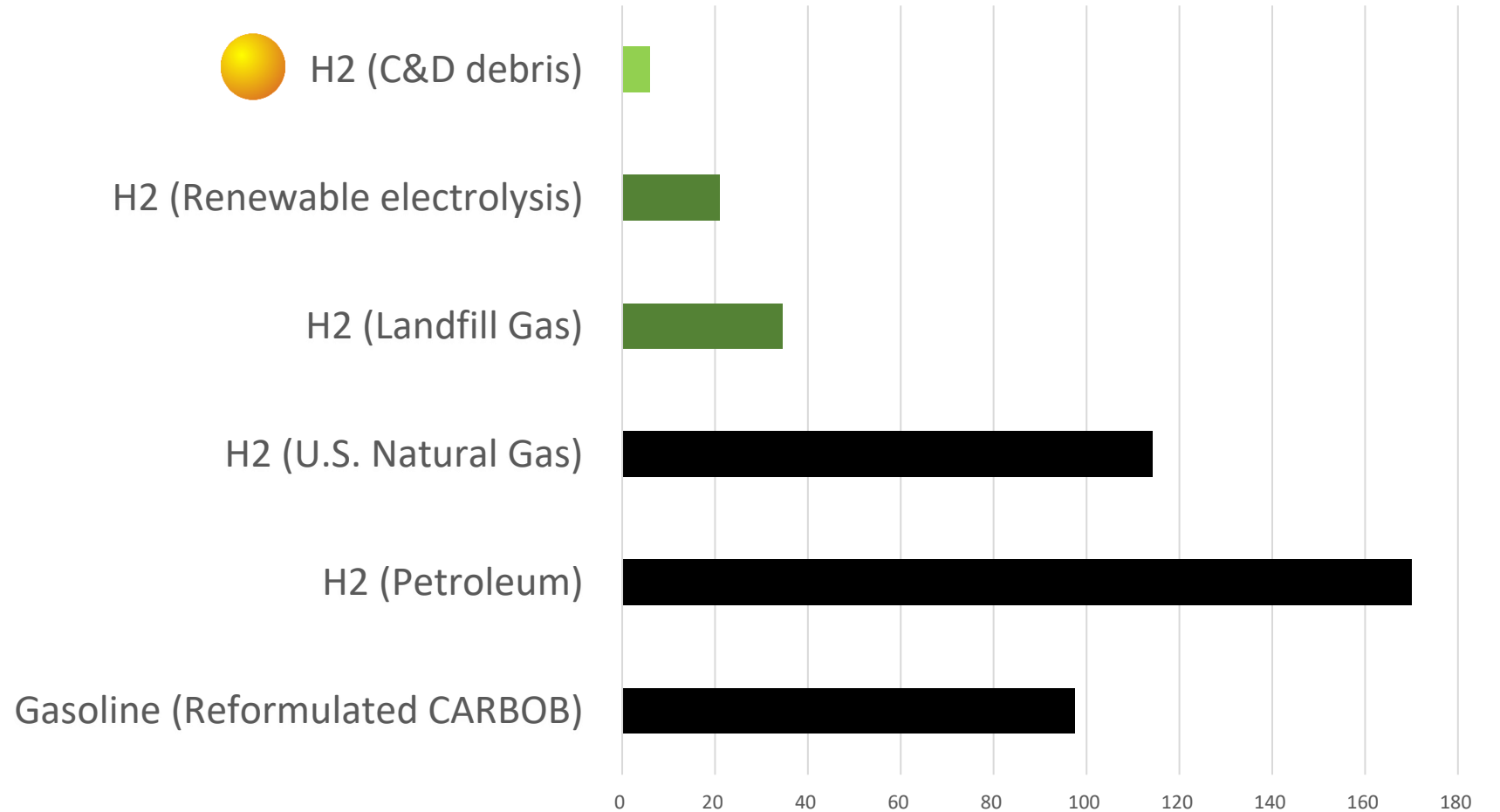
Competitive Niche: Greenhouse Gas Reduction



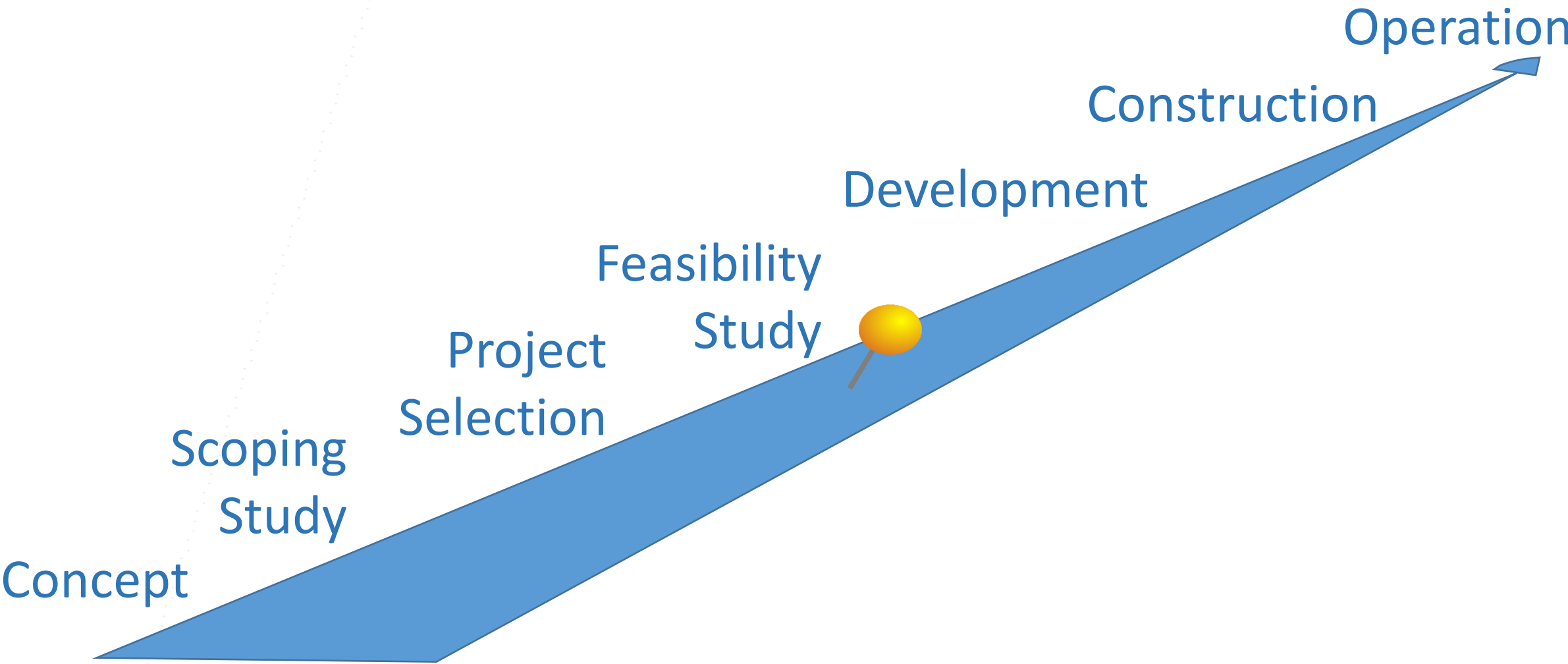
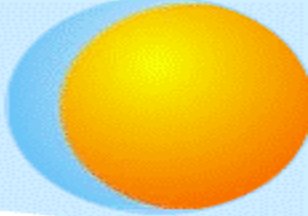
The Hawaii project could displace 100,000 tonnes of CO₂ per year... “This emission reduction from one C&D wood-to-fuel conversion project is equivalent to the carbon stored by 70,000 – 165,000 acres of U.S. forests per year”



Greenhouse Gas Intensity of Transportation Fuels
(US EPA and California ARB certified values in gCO₂e/MJ 2019)



Project Development Stage



Founder projects that led to this point



Refinery renewable integration



Renewable fuel cogeneration



Waste gasification



JP8 Jet fuel from algae



Wood waste to green marine fuel



Great Green Fleet demonstration

... and much more...

Where we can use help

Now:

Community input to
inform our project

Soon:

Community support for our
Environmental Assessment

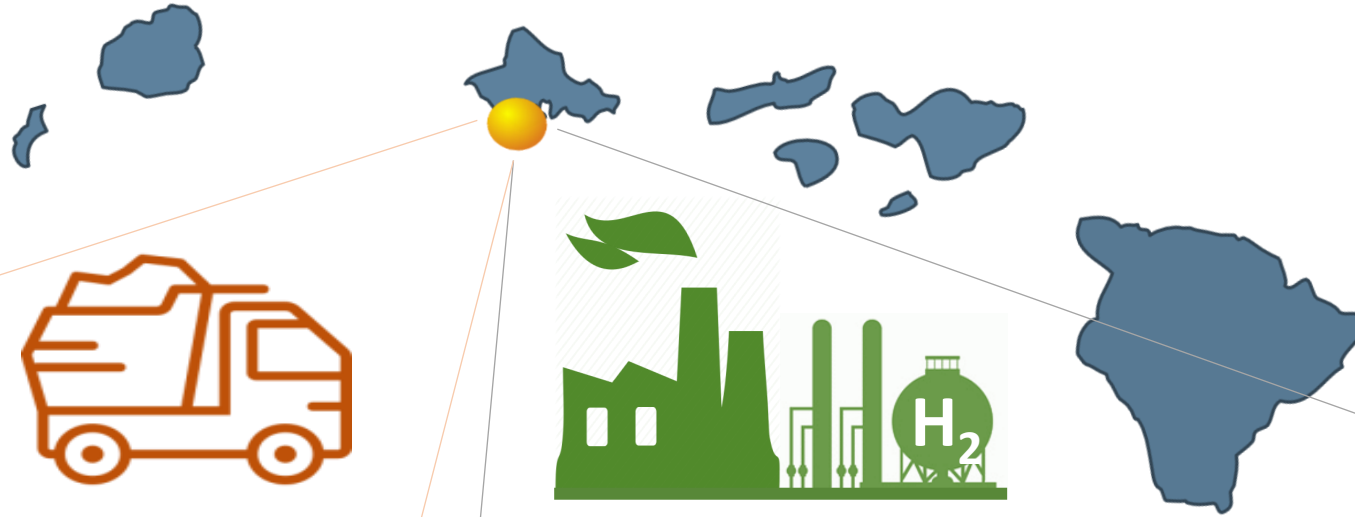
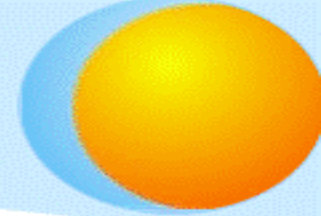


Please fill out our survey on

[https://www.surveymonkey.com/r/
HICommunityInputBioenergy](https://www.surveymonkey.com/r/HICommunityInputBioenergy)

Aloha Carbon:

Community-informed project to divert waste from landfill and recycle into fuel



Problems we are tackling:
>560 million tons of C&D waste landfilled each year in the U.S.A.



- ❑ More than 2X the municipal solid waste generated annually
- ❑ Contaminated with treatment chemicals, paint, and glue
- ❑ Difficult to re-use in power plants, mulch, or compost

Solutions we are developing:
Green hydrogen & jet fuel from C&D waste



- ✓ 3 project design spirals with community input
- ✓ Local and Hawaiian voices are central to the conversation
- ✓ 97% lower greenhouse gas lifecycle emissions than petroleum

Questions?



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