



ALL POWER LABS

Carbon Negative Power & Products

The Solution



biomass waste
feedstock

Mobile waste-to-energy
power plants that produce
affordable, on-demand,
carbon-negative energy



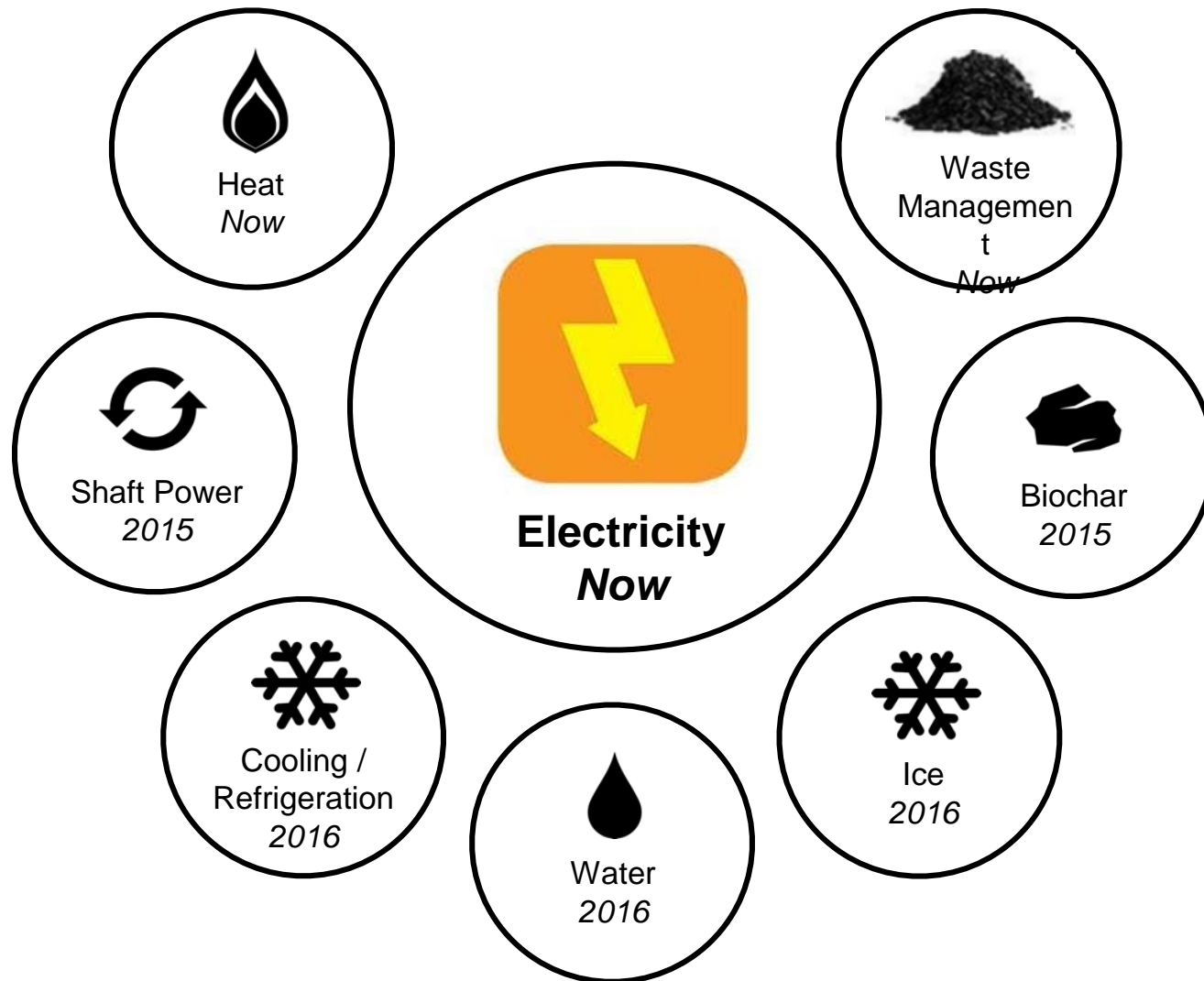
power & heat



sequestered
carbon
(biochar)



Revenue beyond electricity. Optimize for your specific market.



A Solution for LADPW



- Transportation
 - Processing for tree trim waste
- Water Resources
 - Biochar as a filtration medium
- Environmental Services
 - Responsible ag, forestry, and green waste processing
 - Work with Landscape Maintenance Districts for enhanced landscaping
- Public Buildings
 - On-demand back-up heating/cooling and power for 100% uptime
- Emergency Management:
 - Flood protection: Biochar-enhanced soil strengthens plant growth
 - Wildfire mitigation with high-volume biomass processing equipment

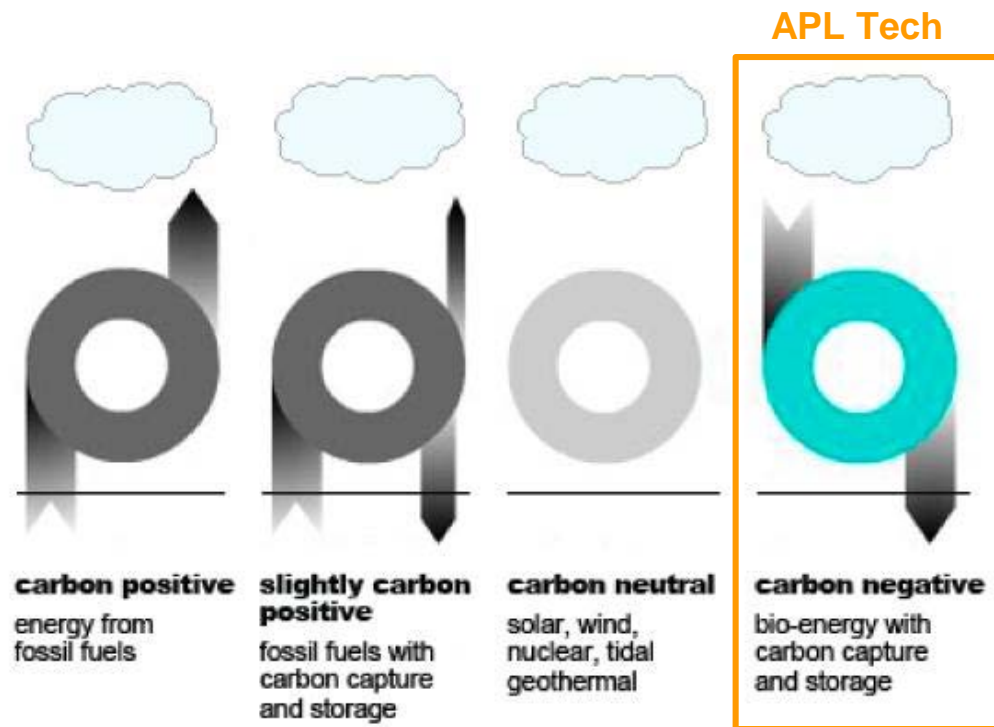




When gasification is combined with biochar (returning a portion of the original biomass back to soil as charcoal “fertilizer”) **the total “power and products” cycle is carbon negative.**

The result is an unlikely combination of wins:

1. Agricultural or forestry waste is removed from the field without burning or decomposition.
2. Clean and renewable energy is delivered at low cost, displacing GHG emissions from conventional energy sources
3. GHG is reduced by underground sequestration of carbon as biochar.
4. Plant productivity is increased through application of biochar to soils.



Biochar is unique opportunity to draw down GHG on a global scale

A solution today, and tomorrow



Coyoacan, Mexico



Niyika Plateau, Malawi



Bogota, Colombia



Suliwesi, Indonesia



Terni, Italy

20 kW Power Pallet



Kakata, Liberia



Morris, MN



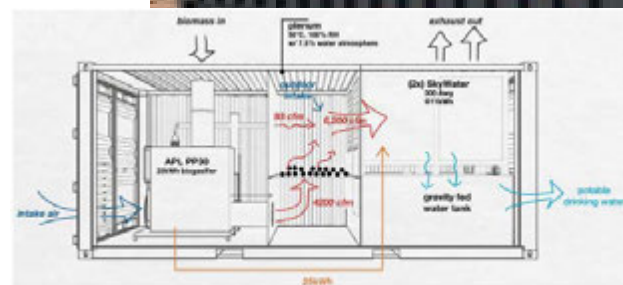
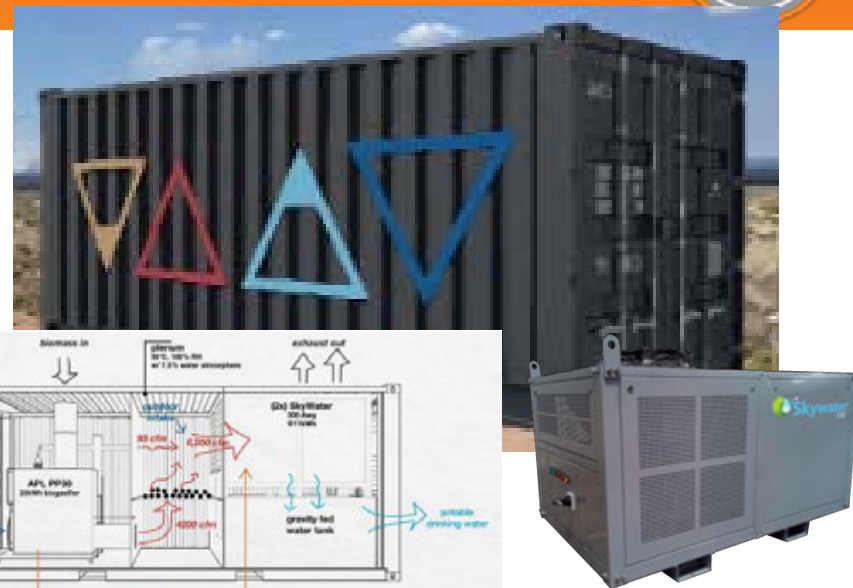
Morris, MN

Available in 2020
200 kW PowerTainer

Innovative & Proprietary Technology



Power Pallet - Biomass to electricity/heat/biochar

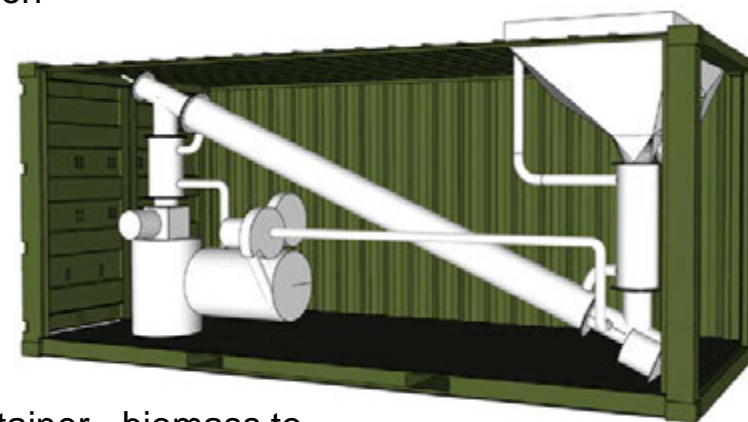


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Watertainer (WEDEW) - Biomass powered atmospheric generators for biochar and water production



Powertainer- Biomass to electricity/heat/biochar












Chartainer - biomass to biochar/heat



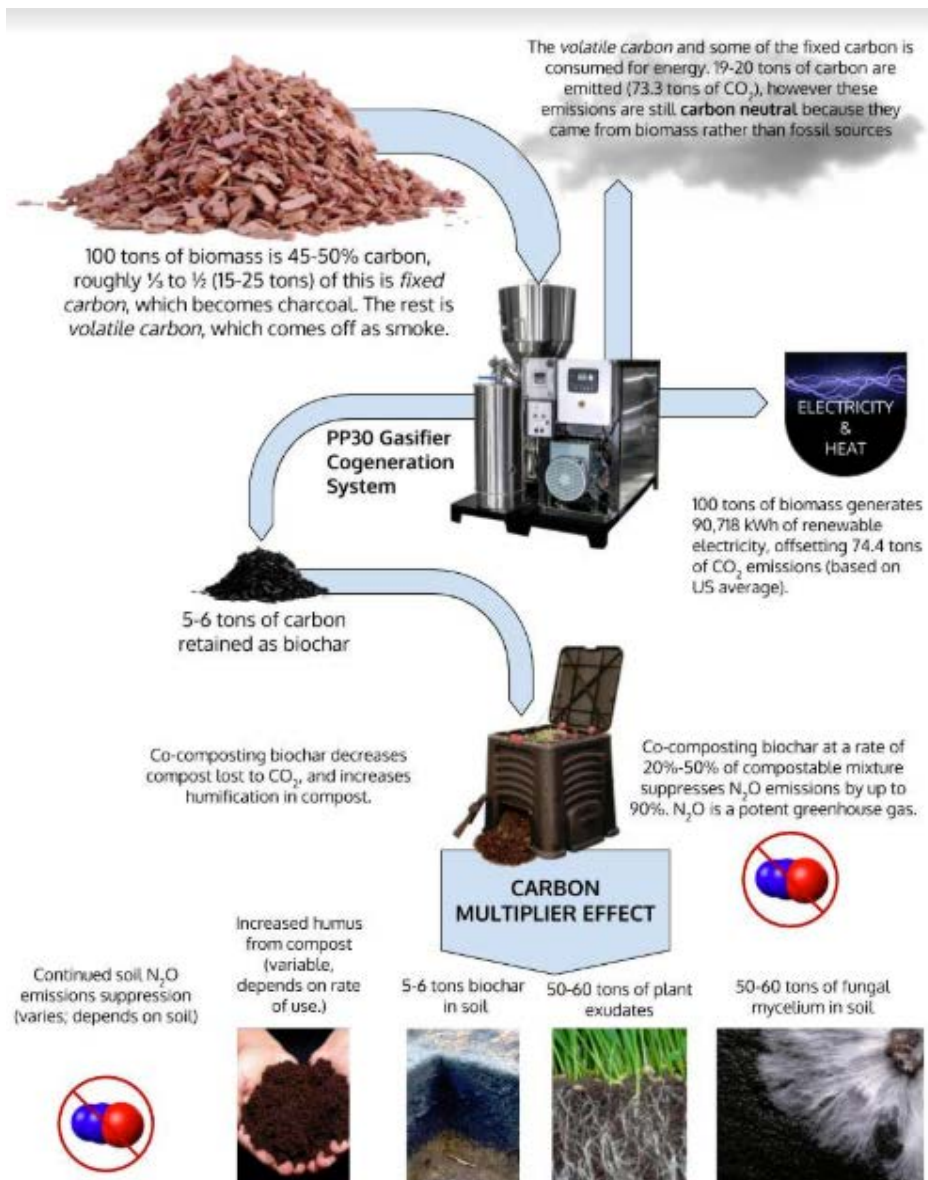
Climate Products



Energy	Carbon	Water	
<ul style="list-style-type: none">PPAs (NEM, FIT, Off-Grid)	<ul style="list-style-type: none">Biochar Products	<ul style="list-style-type: none">Water Products	
<ul style="list-style-type: none">On-demand PowerCooling SystemsHeating & Drying Solutions	<div><div></div><div><p>Charcoal Bamboo Detoxifying Shampoo...</p><p>Hello Oral Care Activated Charcoal...</p><p>Active Woe Teeth Whitening Charcoal...</p><p>Activated Charcoal Whitening Powder...</p></div></div>	<div><div>Bulk</div><div></div></div>	<div><div>Tote</div><div></div></div>
		<div><div>Bottle</div><div></div></div>	<div><div>Single</div><div></div></div>

Biomass Waste Disposal	Carbon Drawdown	Other
<ul style="list-style-type: none">Forest WasteAgricultural Green WasteNutshell Producers	<ul style="list-style-type: none">Carbon CreditsCarbon Removal Certificates	<ul style="list-style-type: none">BrandingLCN Franchise

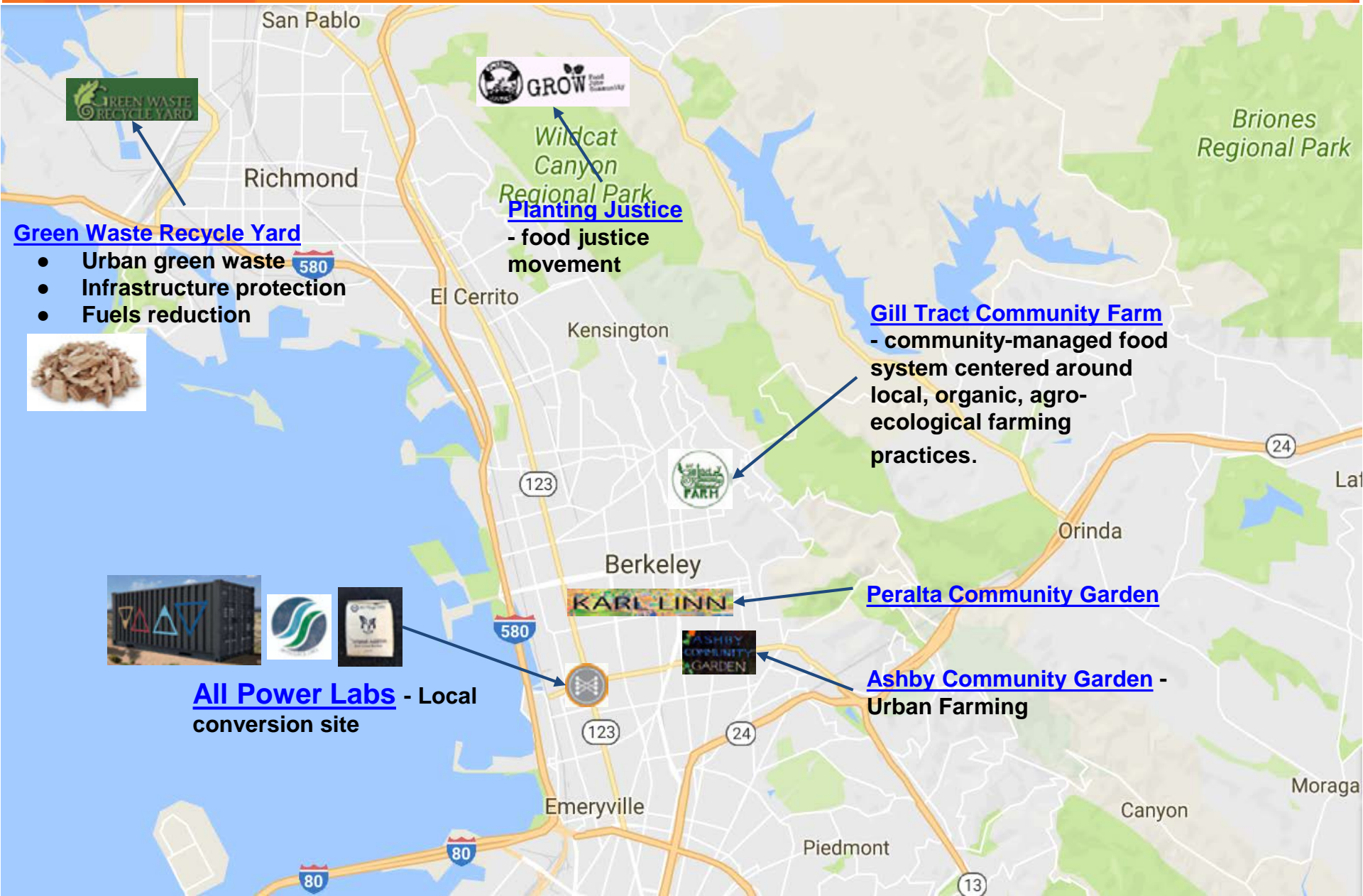
Biochar - Climate Impact, Agronomic Value



BIOCHAR		
Property	Low Temp Char 450 - 500 deg C	High Temp Char > 700 deg C
Electron Transfer Rate	1x due to geobattery mechanism	3x due to geoconductor mechanism

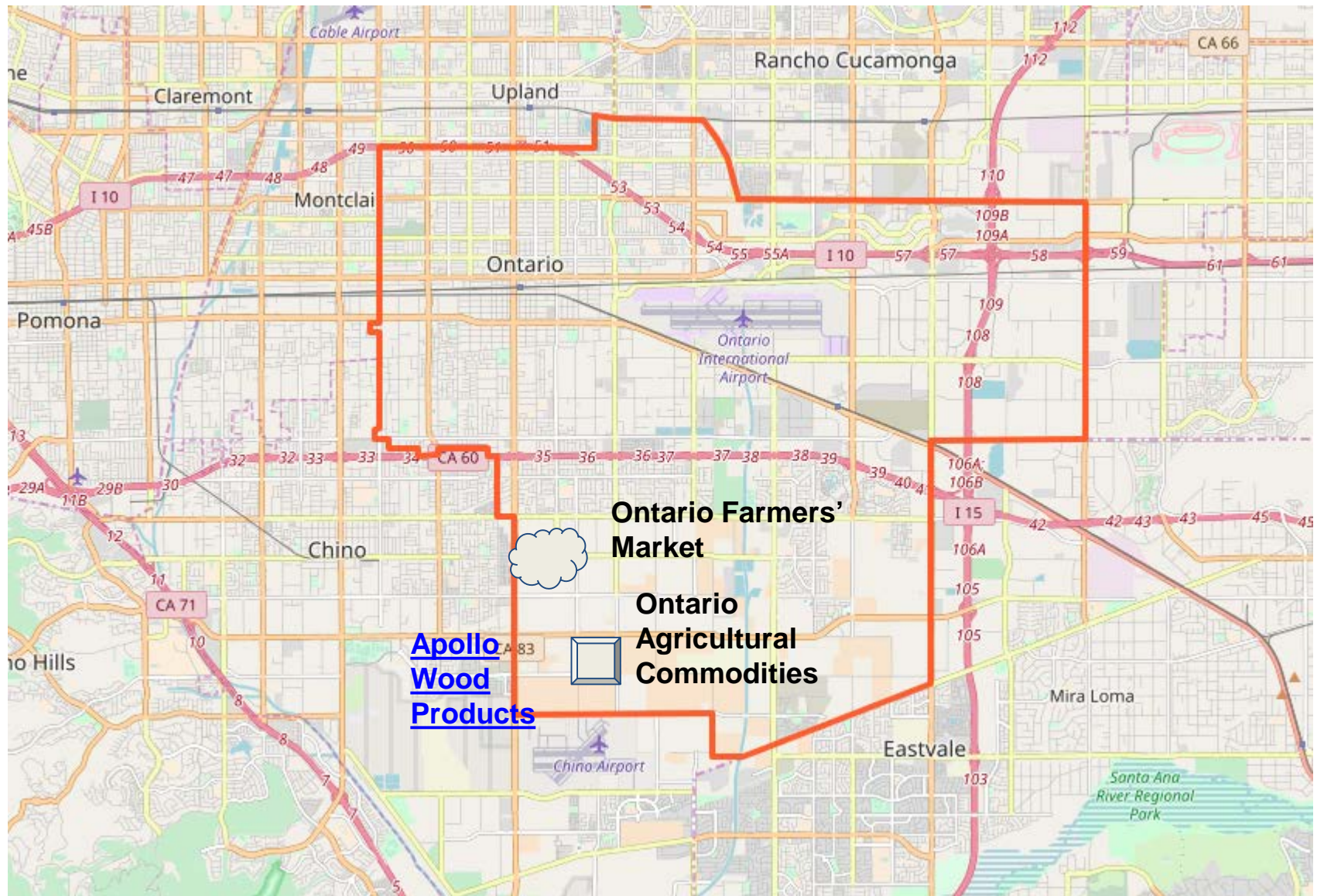
COMPOST		
Property	No Biochar	With Biochar
Cation Exchange Capacity	10x-100x	10x-100X, but longer lasting
Water Holding Capacity	6x - 8x	6x - 8x
Soil Biome Enhancement	Significantly improved	Extreme improvement due to conductivity; free-living nitrogen fixing bacteria increased, soil fungi dramatically increased
Composting Temperatures	Up to 135 deg F	Up to 160 deg F over longer period

LCN - Berkeley CA



LCN - Ontario CA

- Power Pallet CCHP
- Funded via CEC Grant



Competitive Landscape

