

**Bioenergy Systems Overview**

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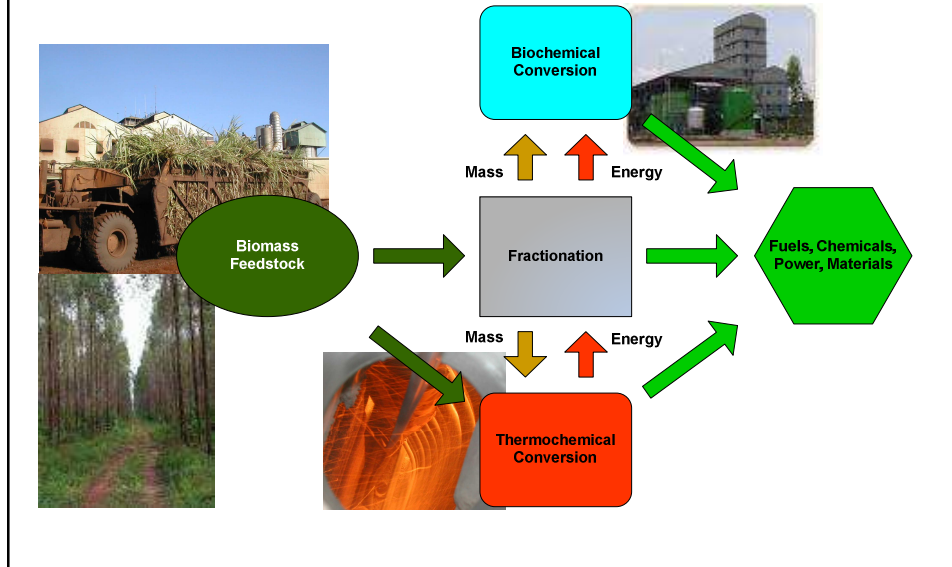
**Hawaii Bioenergy Master Plan**  
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## Summary of Hawaii Biomass Resources by County circa 2002

	Hawaii	Maui	Kauai	Honolulu	State
Animal Manure, Mg/yr*	189	246	85	9,185	10,646
Bagasse Fiber, Mg/yr*	0	249,433	68,027	0	317,460
Cane Trash Fiber, Mg/yr*	0	124,263	33,560	0	157,823
Pineapple Field Trash, Mg/yr*	0		0		43,311
Mac Nut Shell, Mg/yr*	16,871	0	0	0	16,871
Municipal Solid Waste, Mg/yr*	64,886	61,038	32,552	418,104	576,580
Landfill Waste in Place, 10 <sup>6</sup> Mg	3.1	2.2	1.3	7.7	14.4
Wastewater Influent, 10 <sup>6</sup> gal/day	7.4	16	4.4	99	127
Fats/Oil/Grease, Mg/yr*	841	1,678	739	9,232	12,490
Sawmill residues, Mg/yr*	27,617	0	0	0	27,617

\* dry basis

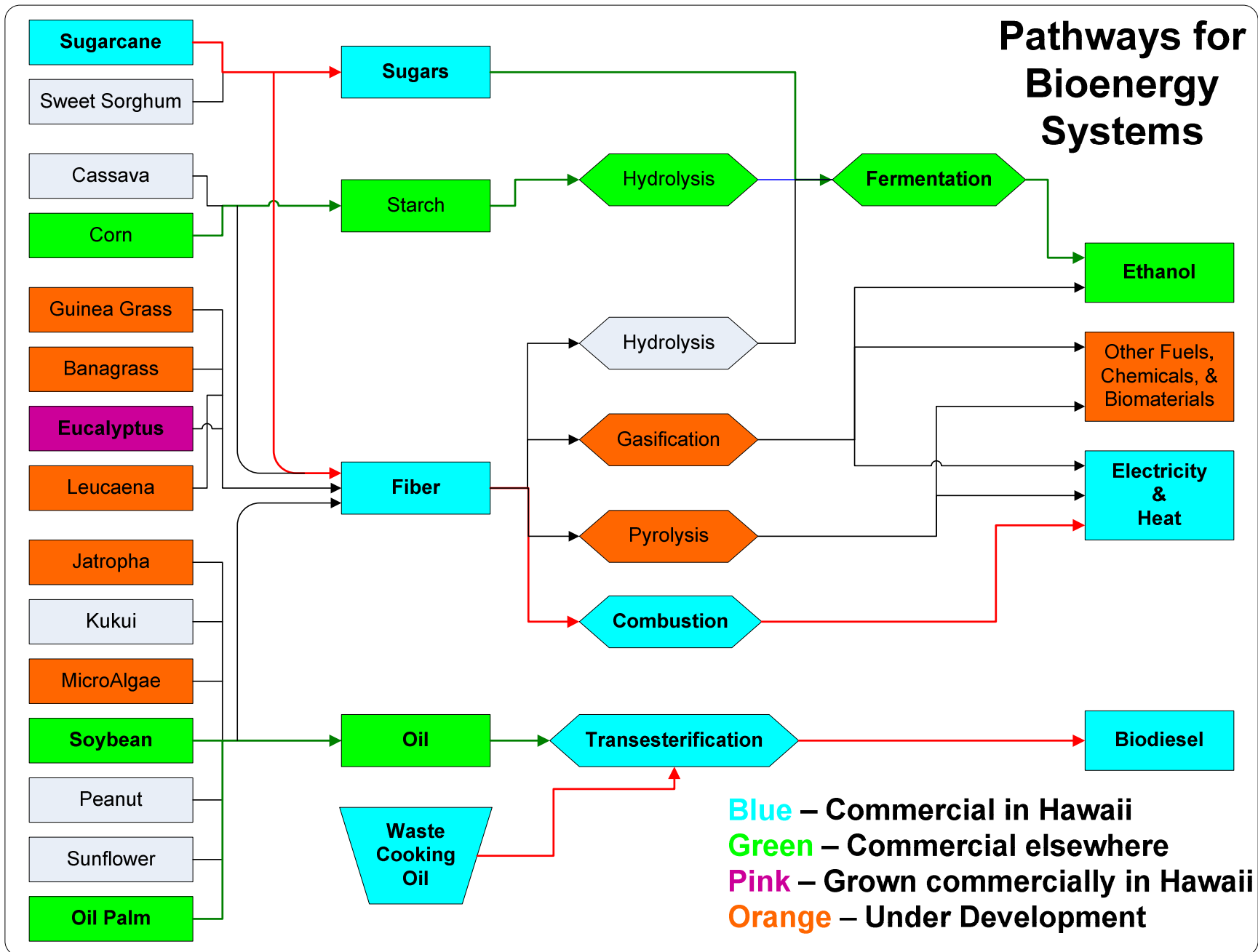
# Biorefinery Concept



## Implementation issues

- Most public studies to date on potential bioenergy production systems are conducted given a set of assumptions
- Assessment must be site/location specific
  - Water availability and costs for crop production
  - Land availability for biomass production (e.g. private/public decision making)
  - Land use priorities
  - Impacts on environmental quality
  - Economic impacts
  - Cost of production for conversion technologies that are currently in development
- Additional work needed to guide government policy and/or specific bioenergy production ventures

# Pathways for Bioenergy Systems



Crops

Intermediate Products

Conversion Technologies

Bioenergy Products