

# BIOCHAR

## Team Members:

Jake Hall

Adam O'Keeffe

Rachel Rosasco

Will Seegmiller

Joe Stanley



## PROBLEM STATEMENT

An abundance of biomaterial exists in the region as a byproduct of industrial lumber production, this material has little value and is currently being used primarily for steam generation.

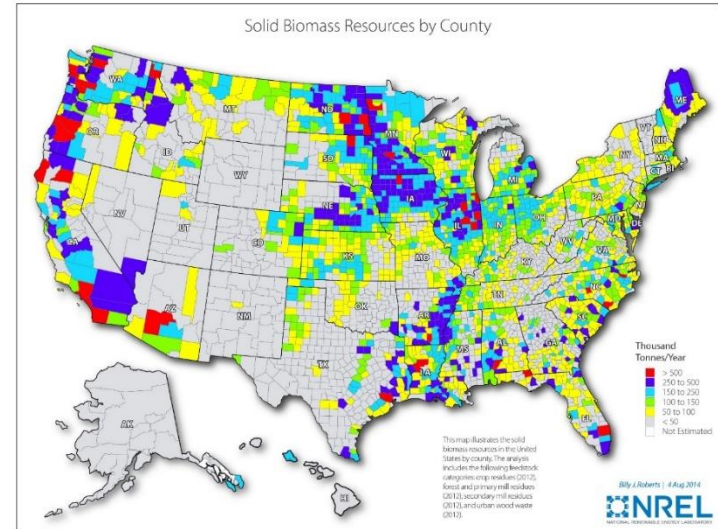
## MISSION STATEMENT

Our team's mission is to develop and prototype a model of a scalable, practical retrofit for modern, industrial boilers that will produce biochar for sale and heat energy. This design must account for multiple variables and allow control of input and output flow rates amongst other factors.



# BIOCHAR

- Rich in fixed carbon
- Enhanced surface area caused by micro and macro pores that easily absorb and maintain moisture and nutrients
- Can be used as a filtering media to absorb contaminants in rainwater and storm water runoff.
- 1,750,000 tons of waste biomass were produced in area surrounding Moscow (150 mi. radius).



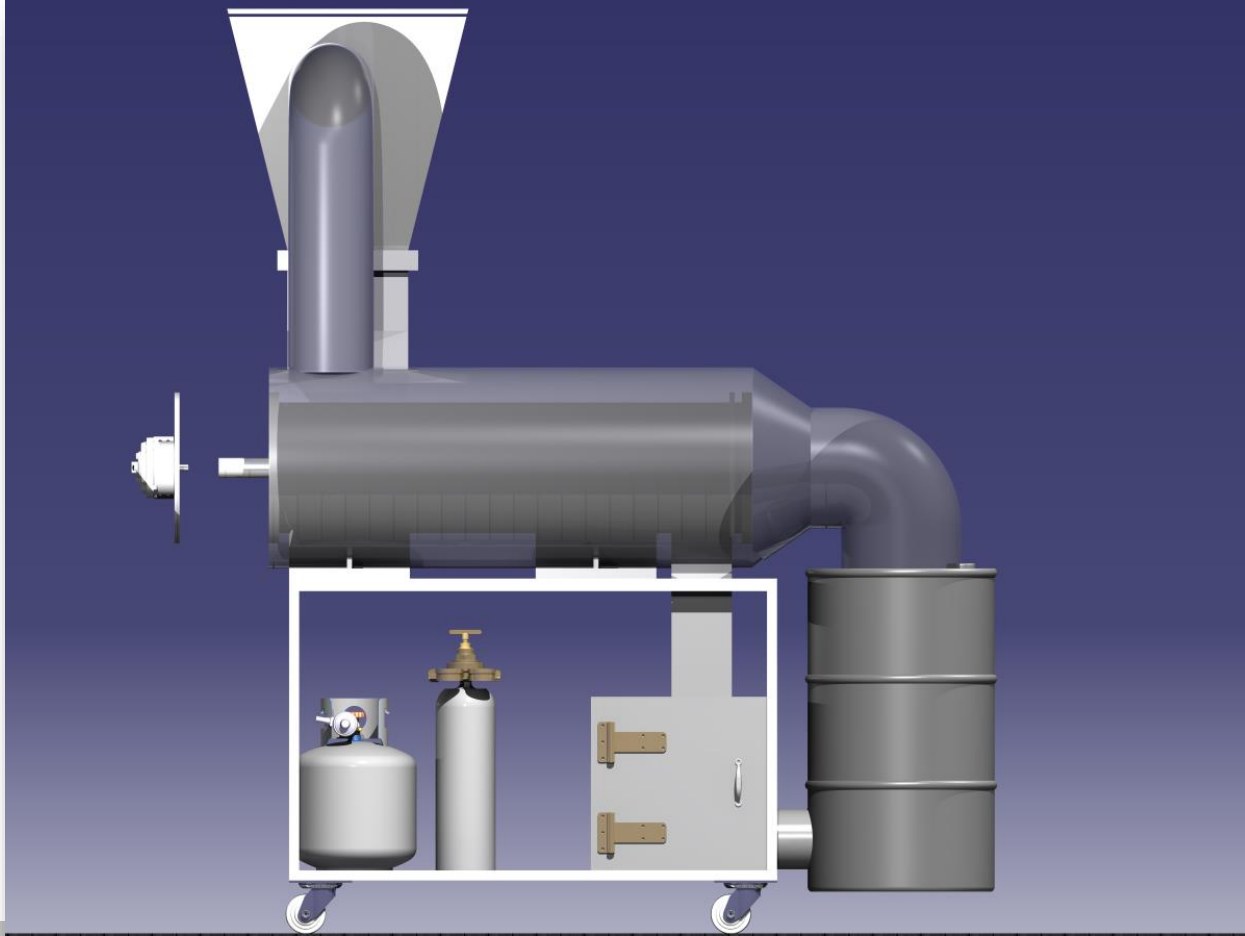
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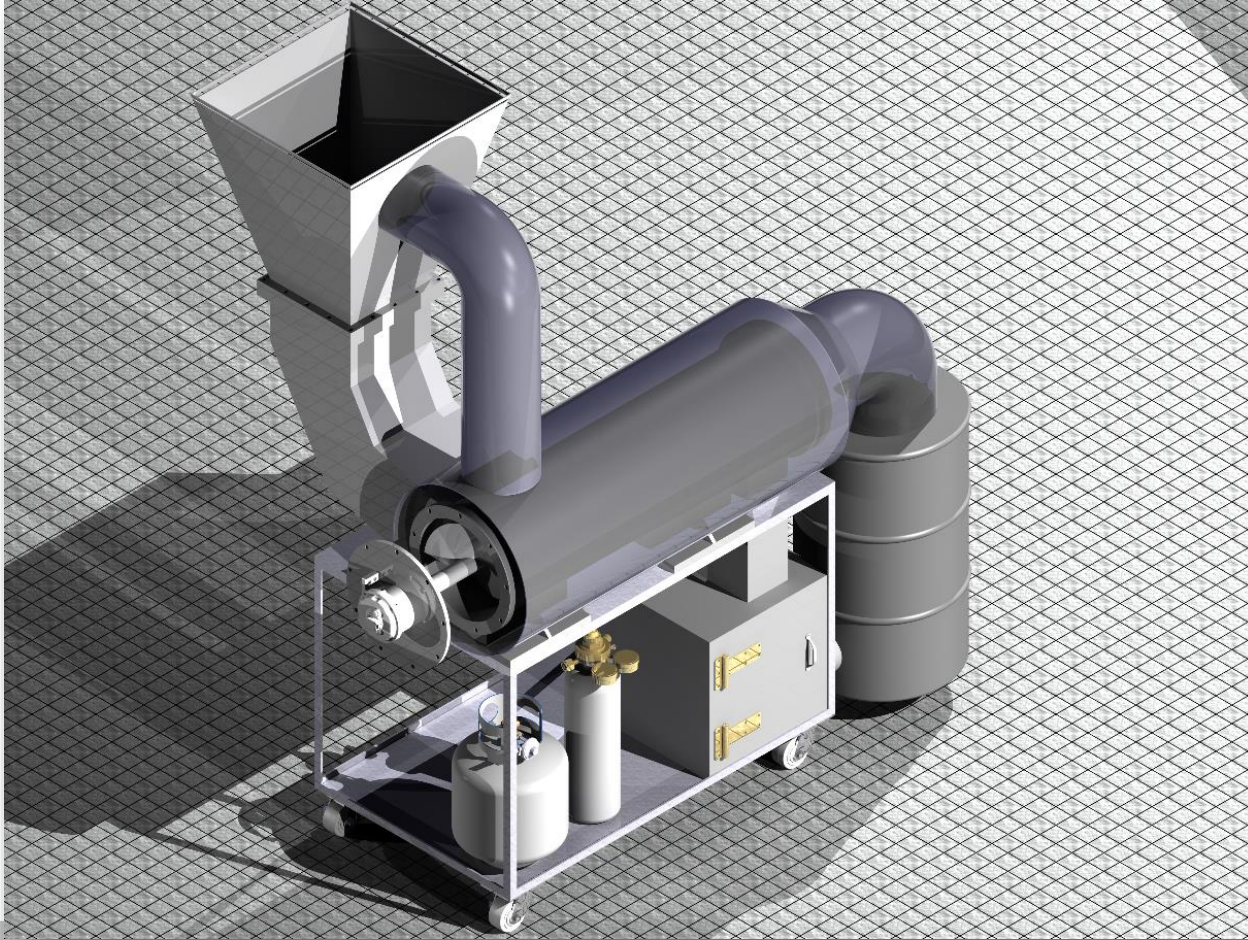
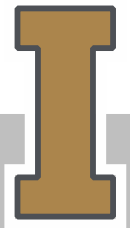
# NEEDS AND CONSTRAINTS

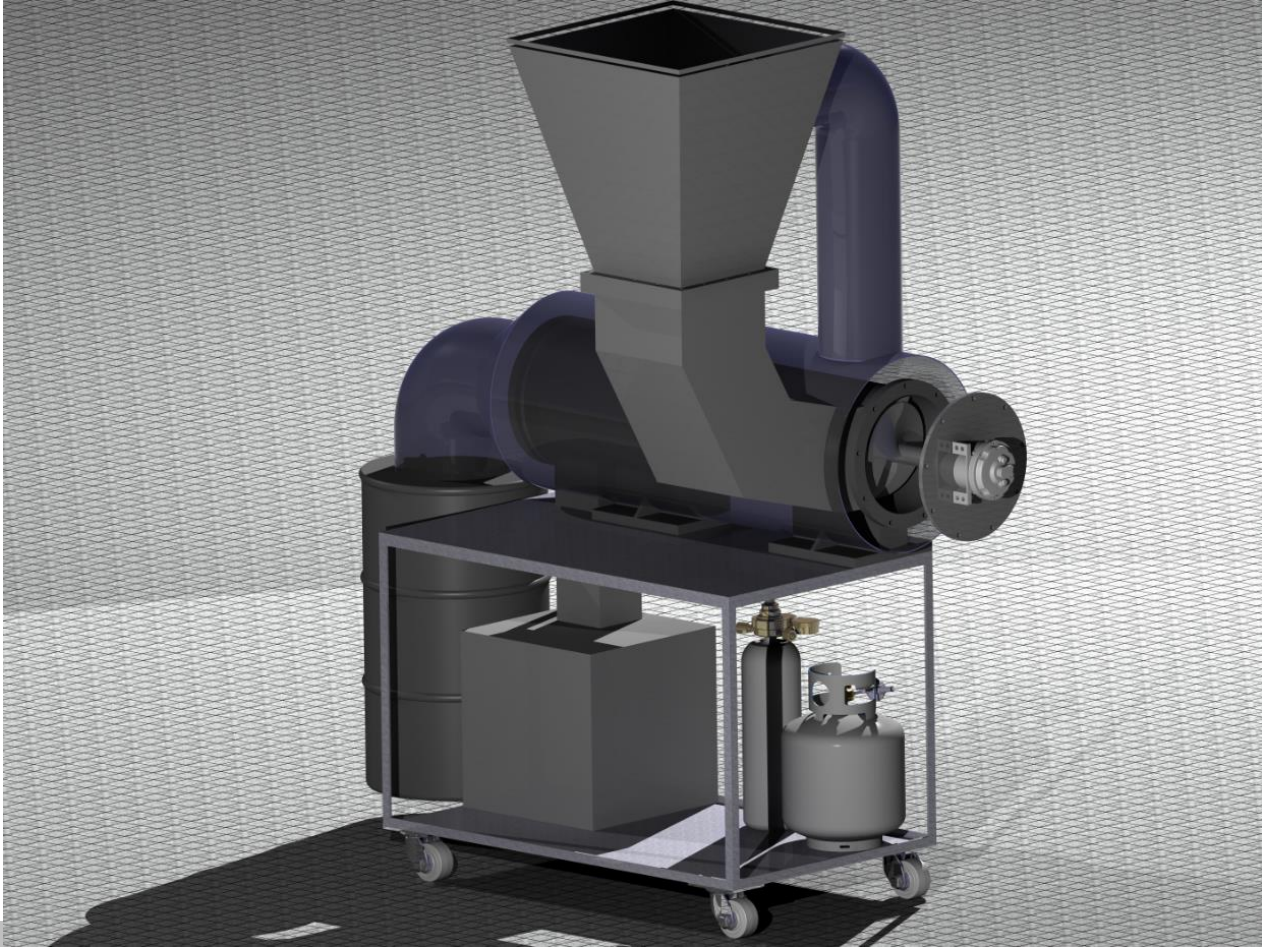
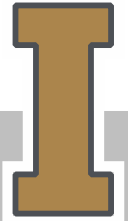
- Continuous process
- Easily integrated to a boiler system
- Scalable industrial design
- Energy efficient design
- Dynamic control system
- Heat exchanger



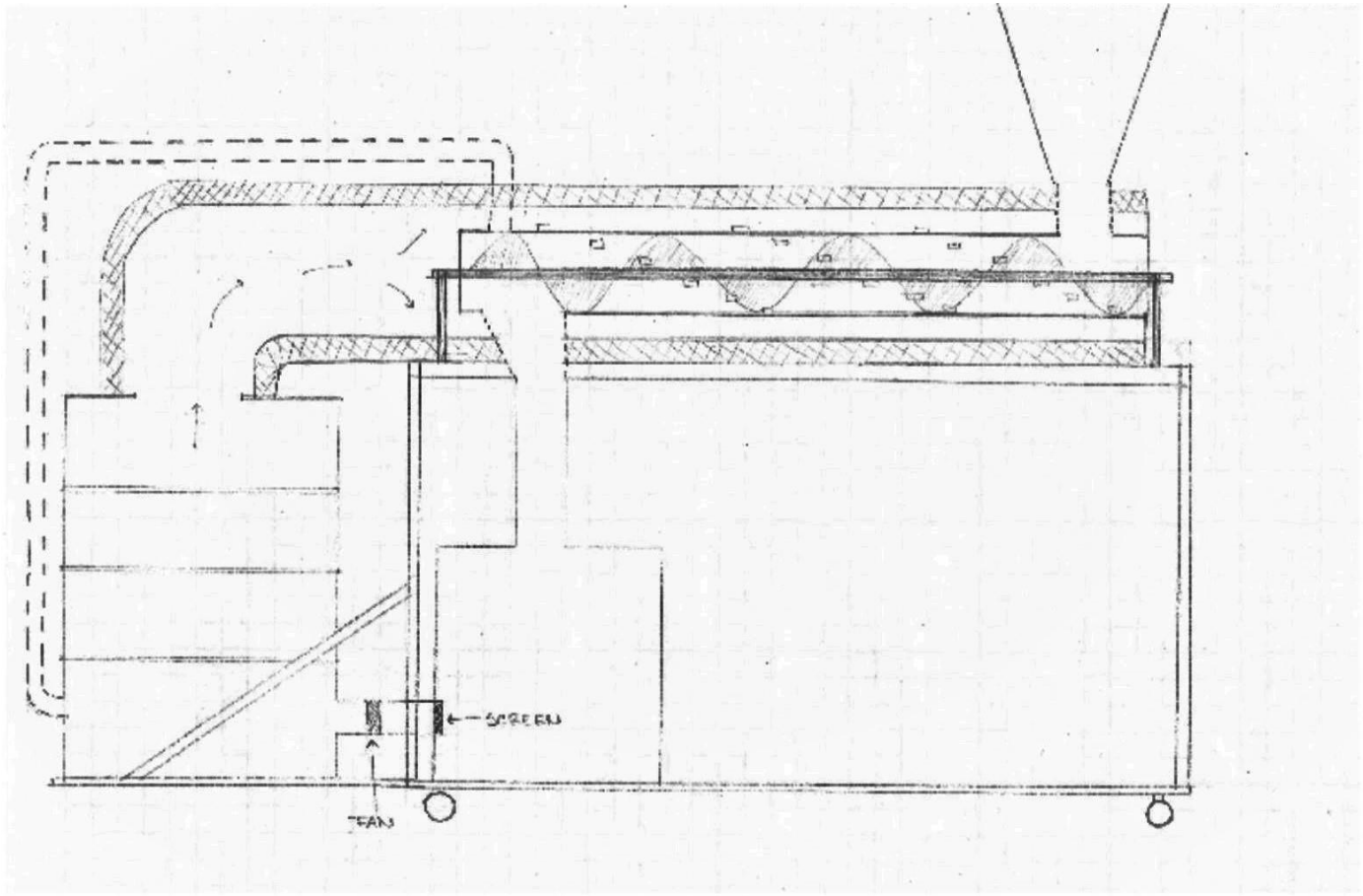








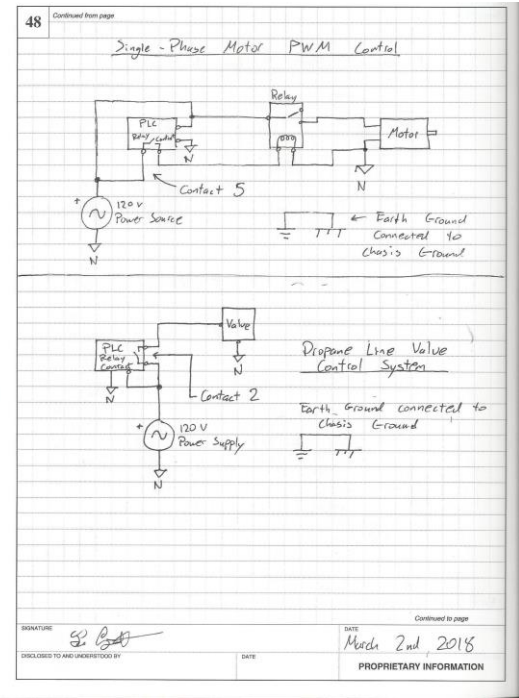
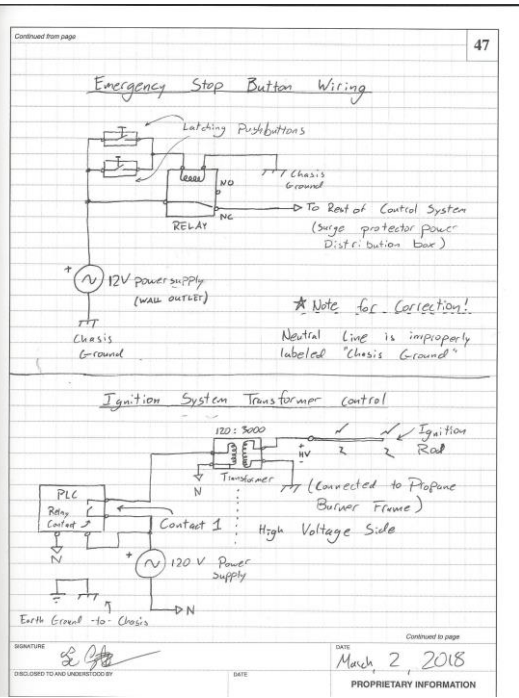
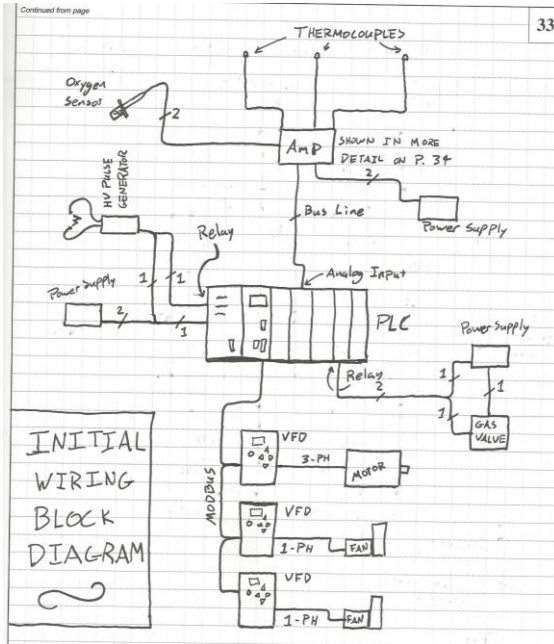








# ELECTRICAL BLOCK DIAGRAMS



# PROJECT SCHEDULE

## Key Deadlines:

Auger Built: 23- Mar

Hopper built: 2 Apr

Boiler attached: 23 Mar

Rework and testing starts: 6 Apr

