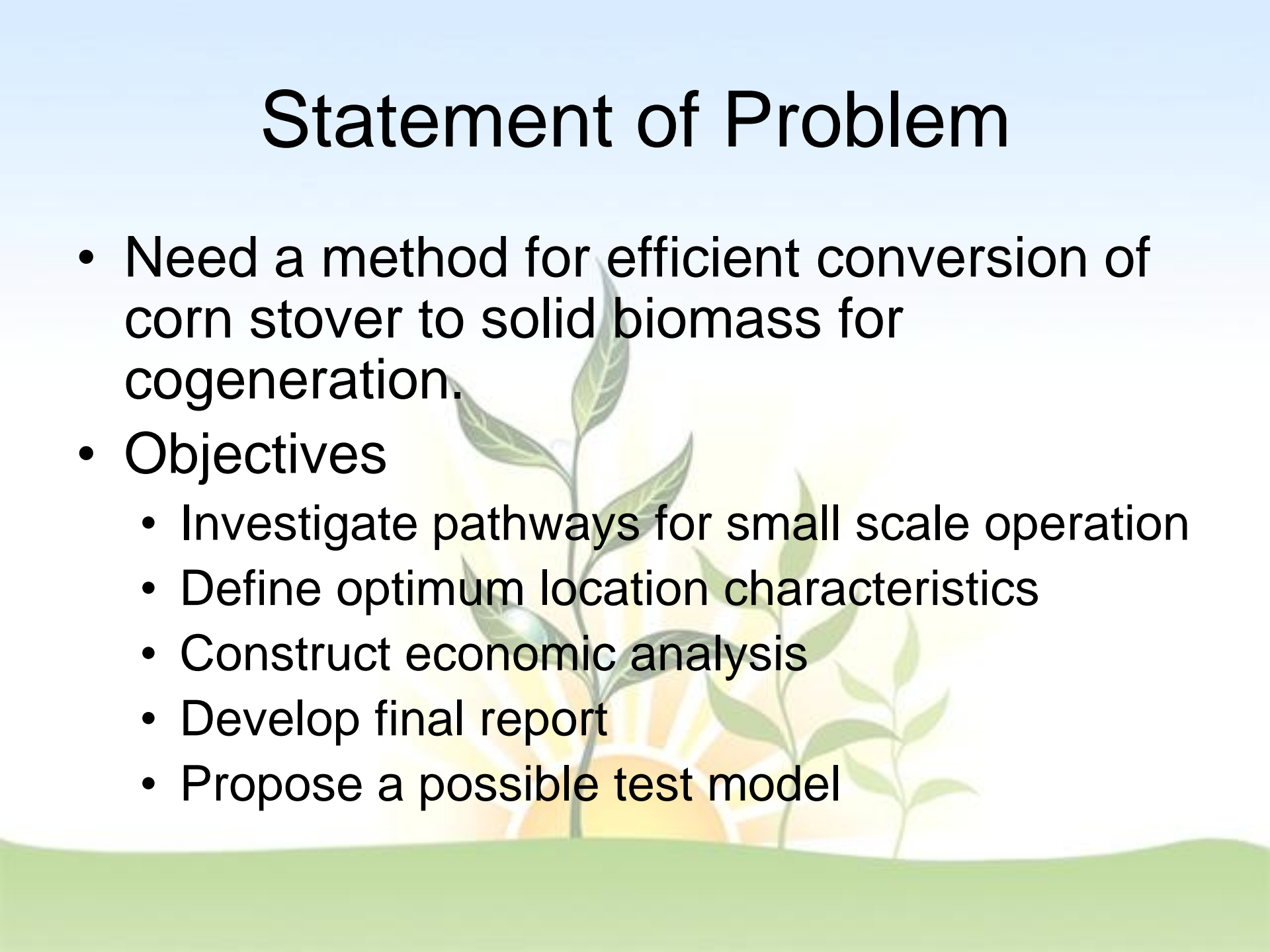


IPRO 349

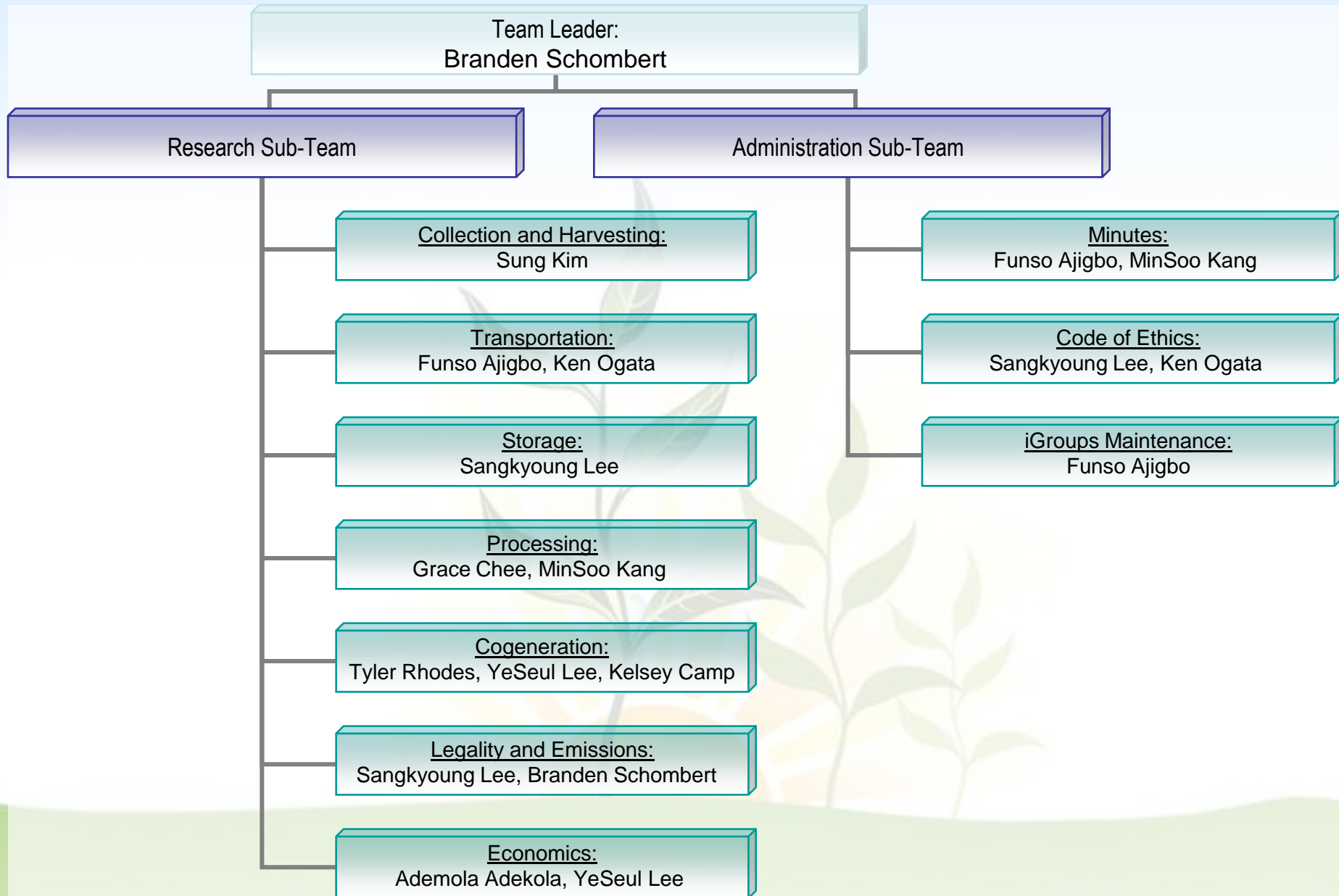
**Solid Corn-Waste Fuel
for Cogeneration**



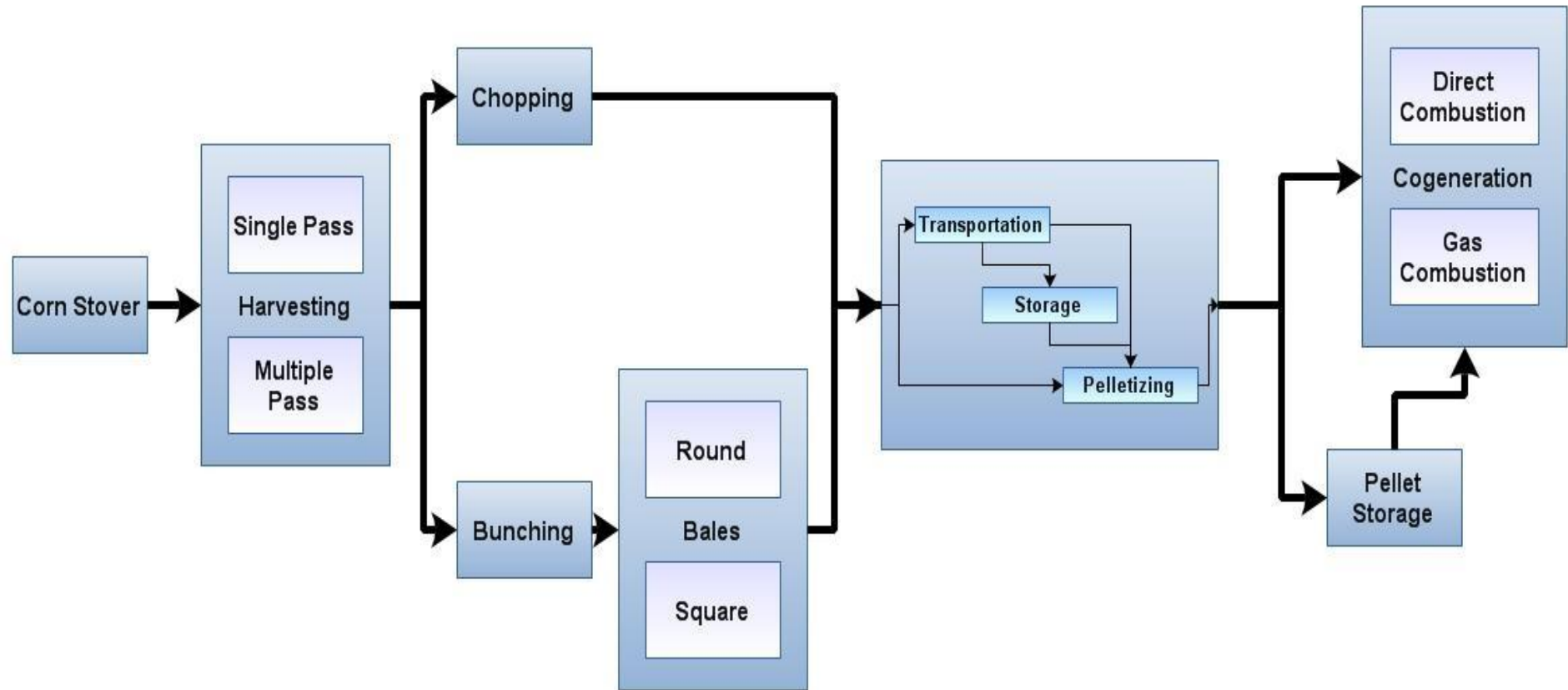
Statement of Problem

- Need a method for efficient conversion of corn stover to solid biomass for cogeneration.
 - Objectives
 - Investigate pathways for small scale operation
 - Define optimum location characteristics
 - Construct economic analysis
 - Develop final report
 - Propose a possible test model
- 
- The background of the slide features a stylized illustration of a green landscape. At the bottom, there are rolling green hills. Above the hills, a bright yellow sun with rays is partially obscured by several green plants with long, pointed leaves. The overall aesthetic is clean and natural, suggesting a focus on biomass and sustainable energy.

IPRO 349 Team Organization



Process Flow Chart



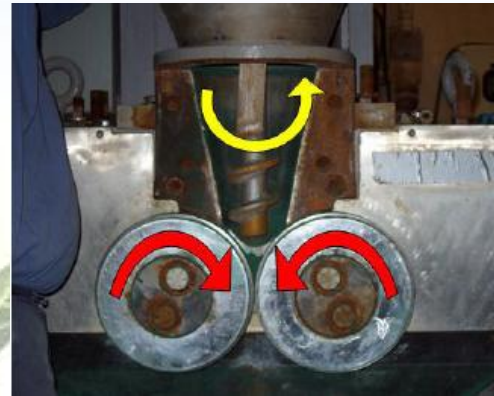
Compacting

1. Purpose

- To increase mass per unit of volume

2. Process of pelletizing

- Grinding/ particle reduction \Rightarrow Compression \Rightarrow Densification



3. Two types of densification

– Briquette



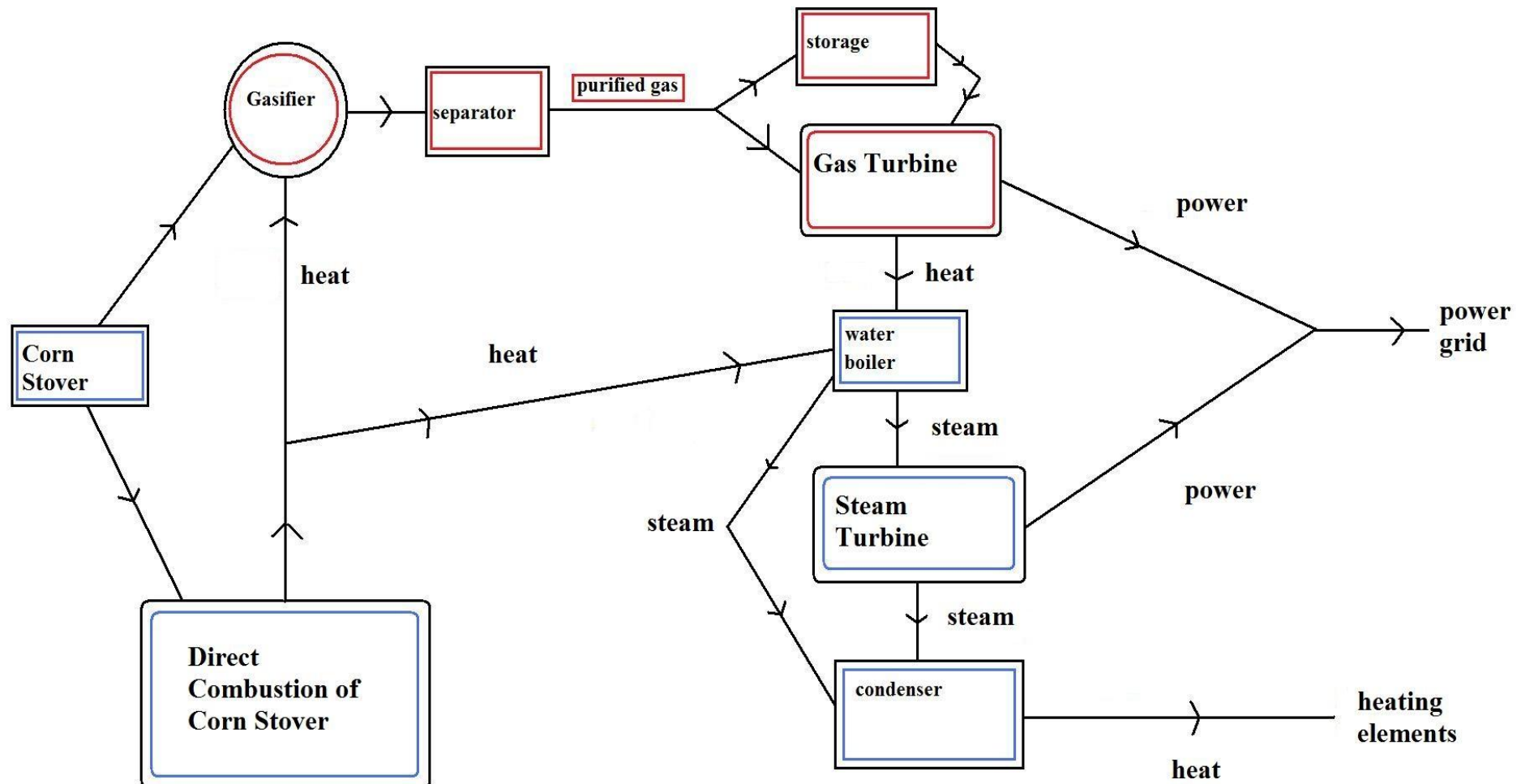
- Less Dense
- Durability : 67-90%

– Pellet



- More Dense
- Durability : 94-96%

Cogeneration Possibilities



Obstacles

- Location of accurate resources
- Getting responses from industries
- Analyzing multiple pathways
- Efficient use of time
 - Planning ahead
 - Individual task definition



To Do List

- Further research
 - Continue to contact companies
 - (ADM, John Deere, Monsanto)
 - Consult specialists
 - Dixon farm visit
 - Track energy losses
 - Compile detailed information of individual components for most beneficial combination
- 

Ethics

- Seven layers of Ethics
- Law: Must abide by all EPA regulations
- Professional Code of Ethics: Must not represent our team falsely
 - Rather, be smart when contacting companies
- Community: Corn for food – waste for fuel



Questions?

