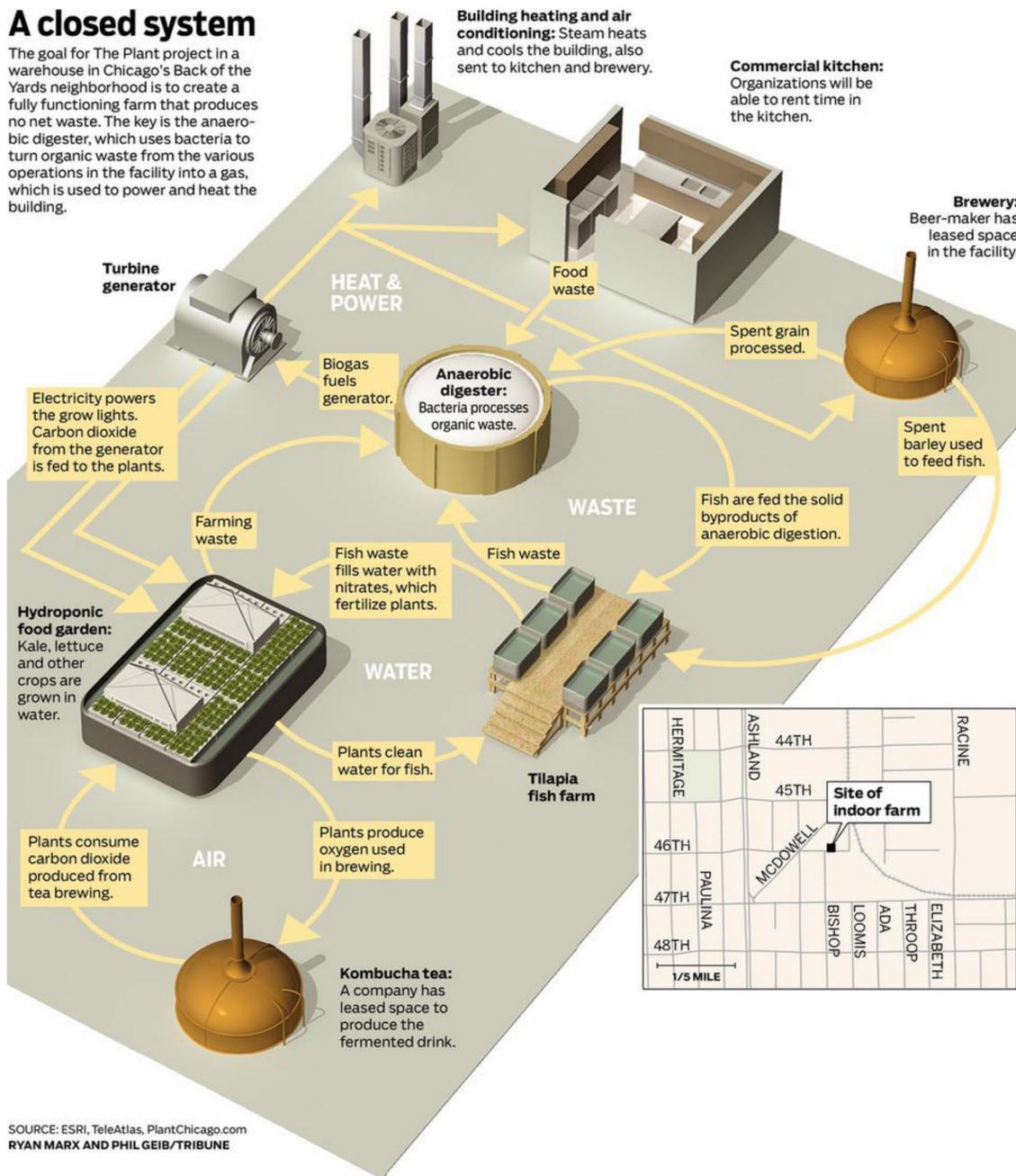


IPRO 336: Implementing the Plant

A closed system

The goal for The Plant project in a warehouse in Chicago's Back of the Yards neighborhood is to create a fully functioning farm that produces no net waste. The key is the anaerobic digester, which uses bacteria to turn organic waste from the various operations in the facility into a gas, which is used to power and heat the building.



SOURCE: ESRI, TeleAtlas, PlantChicago.com
RYAN MARX AND PHIL GEIB/TRIBUNE

The germination system was designed to meet the goals set for one of the aquaponic beds which is to produce approximately 250 plants for harvest every week. The aquaponic bed has a capacity of 1000 plants so the amount of time spent in that system will be 4 weeks total.

The germination system has to be able to produce 250 healthy plants that are 4 weeks away from maturity every week. We designed the system to hold 5 times the weekly output (1250) at any given time. The space is sufficient to meet our requirements for a variety of plants with a wide range of germination times and life cycles.

We conceived of and built one system which if successful will be repeated for each aquaponic setup.

Team Members:

Control Systems:

Philip Speroff, Angela Skaar, Michael Schmidt, Joel Plunkett, William Mocny, Frank Lockom, Katarzyna Handzel

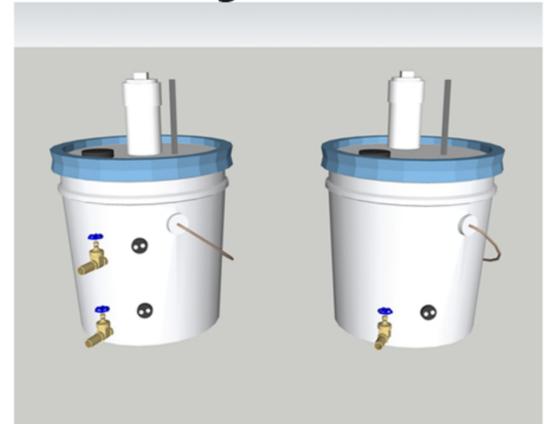
Architecture:

Mariana Palau, Raluca Ostasz, Andrew Liu, Kaycee Kenney, Joseph Hallak, Ioana Bugnar

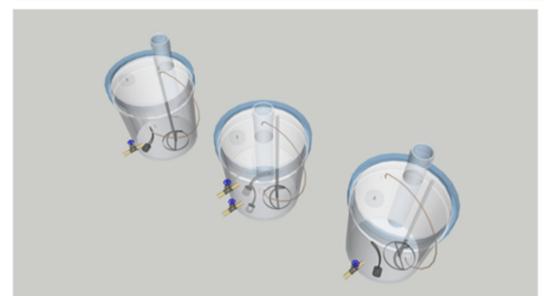
Anaerobic Digester / CHP:

Carlos Viramontes, Laurel Chavez, Nic Sansone, Yao Xiao, Joe Millham

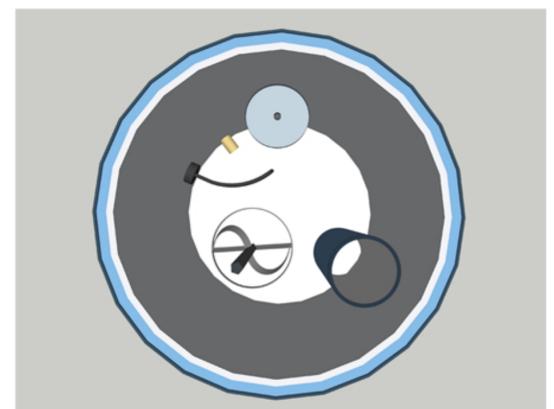
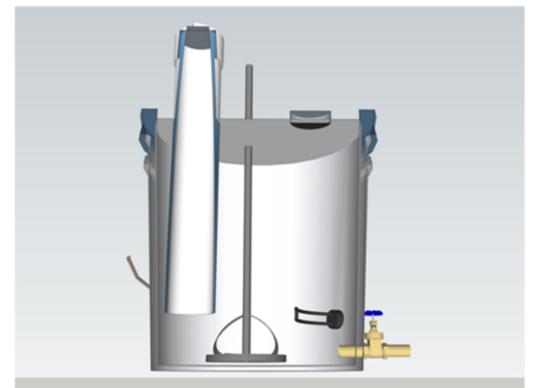
Anaerobic Digester Test Buckets



Xray View of Anaerobic Digester Tests



Section of Bucket 1



Section of Bucket 2

