

BIOMASS BOILER AT ENERGY FARM, UNIVERSITY OF ILLINOIS

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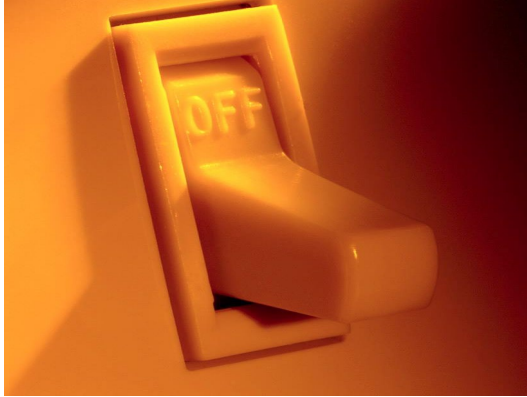


INSTITUTE FOR SUSTAINABILITY, ENERGY, AND ENVIRONMENT



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SUSTAINABILITY WORKING/ADVISORY TEAMS



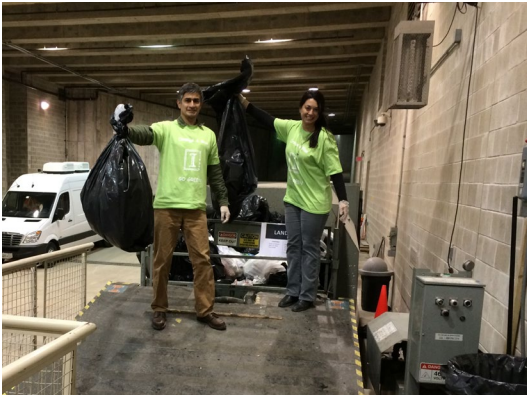
Energy Conservation &
Building Standards



Energy Generation,
Purchasing, & Distribution



Transportation



Purchasing, Waste, &
Recycling



Water and Stormwater



Agriculture, Land Use, Food,
and Sequestration

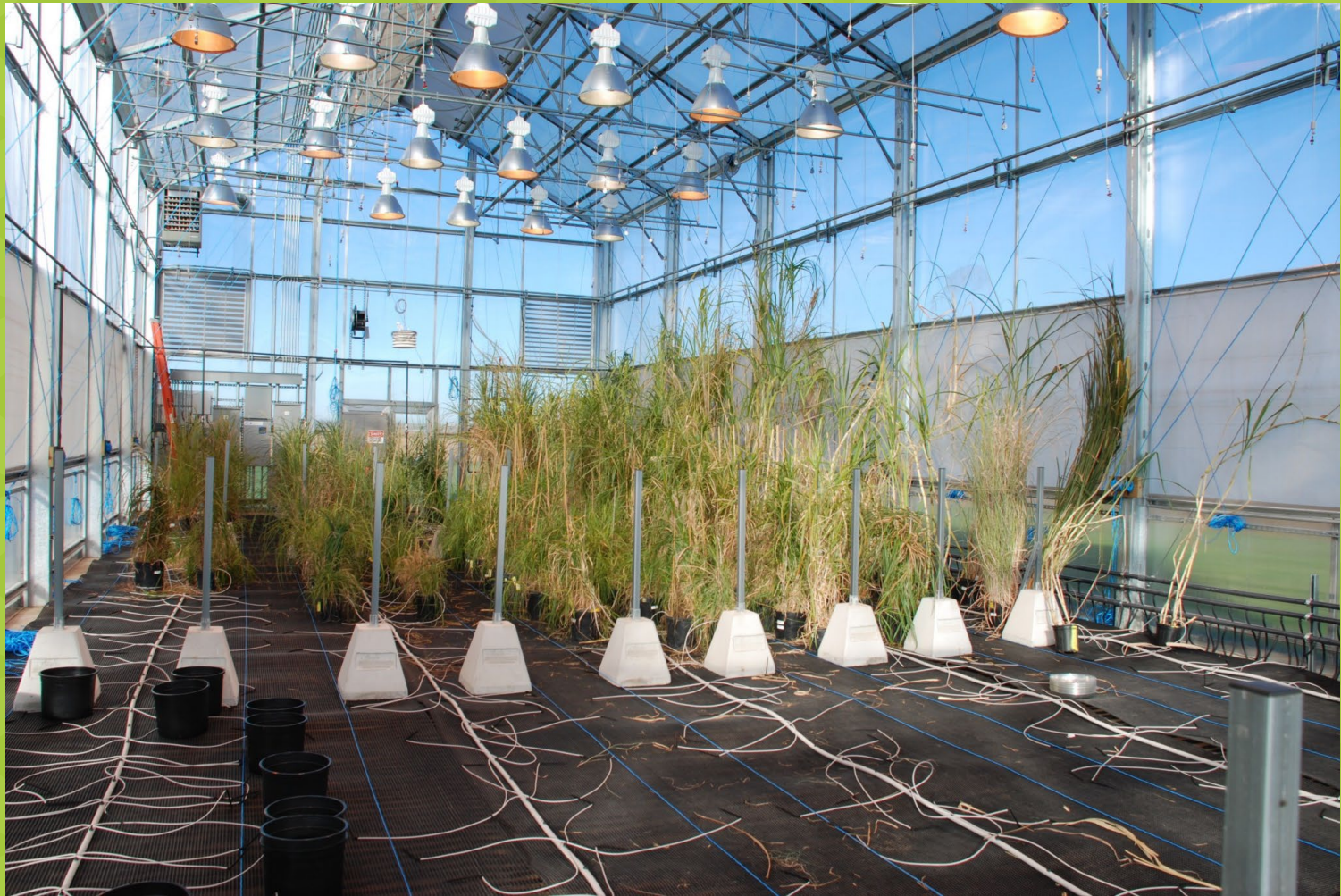


BIOMASS BOILER



- Heizomat Chain Drag Boiler
- Multi-fuel Boiler
- 2000 gallon thermal storage
- Variable output

TO HEAT TWO STORY GREENHOUSE

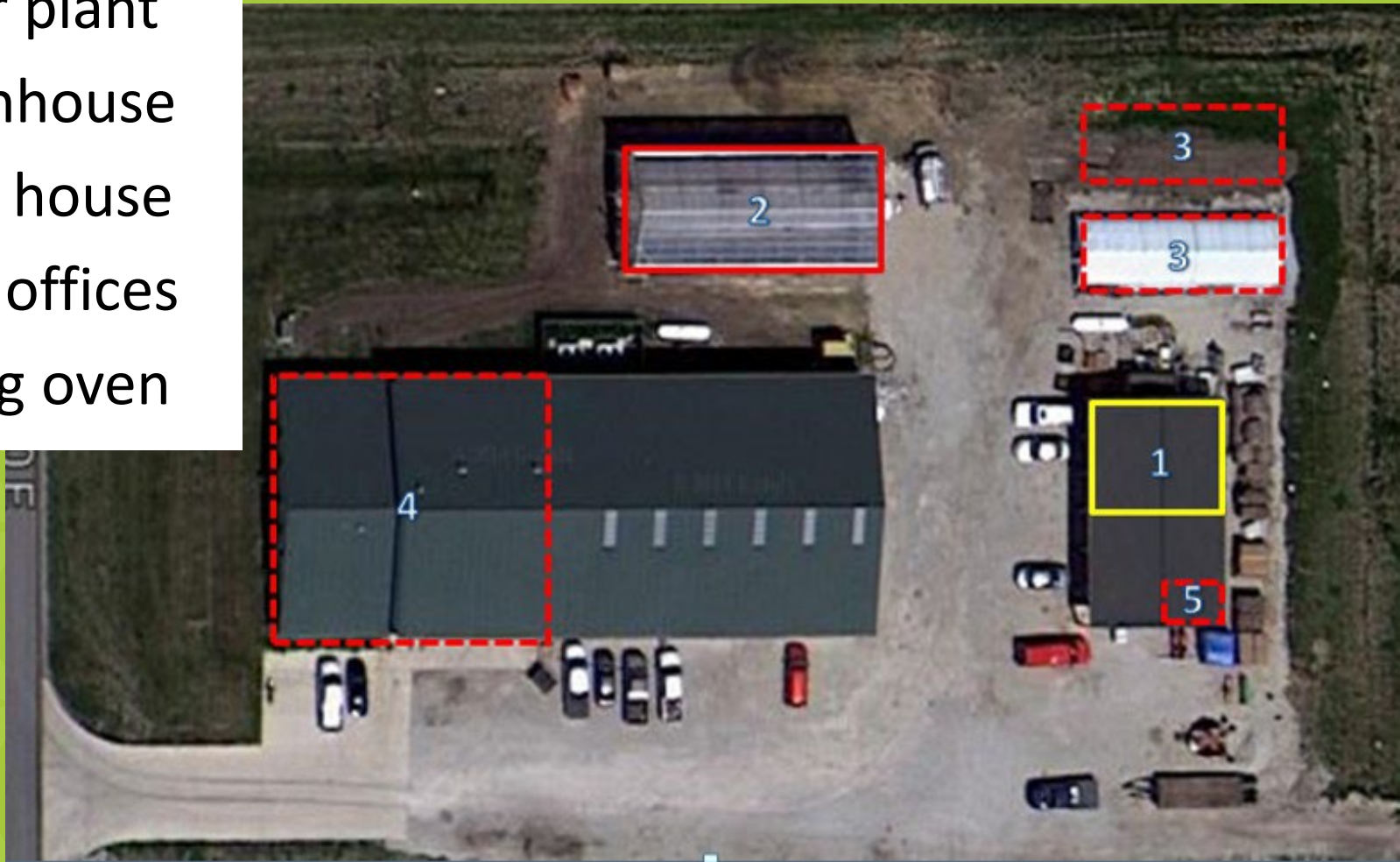


FEEDSTOCK STORAGE SYSTEM



DEMONSTRATION HEATING SYSTEM

- 1 : Boiler plant
- 2 : Greenhouse
- 3 : Hoop house
- 4 : Main offices
- 5 : Drying oven



FUNDING SOURCES

Illinois Clean Energy Community Foundation	\$228,260
UIUC Student Sustainability Committee	\$100,000
Dudley Smith Initiative, UIUC Extension	\$ 17,848
UIUC Internal Funds (Carbon Credit sales)	\$200,892
Total	\$547,000

LESSONS LEARNED

- Address Field to Flame first
- Engage with manufacturers and current users to keep from re-engineering the wheel.
- Lack of US manufacturers building in this size class with a demonstrated ability to burn perennial grasses led to boiler imports
- Cost effective installations need to rely on upgrading existing hot water heating systems, not installing new heat systems from scratch.
- More to come next year!

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