

**From:** [Marcus Florida](#)  
**To:** [Faculty Senate](#)  
**Subject:** Mines@150 Student Signature Initiative Proposal  
**Date:** Wednesday, October 21, 2020 5:19:08 PM  
**Attachments:** [Mines@150 Student Initiative Proposal - Biomass 10 21 20.pdf](#)

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Dear Senate

Attached is a proposal for a long-term project associated with the Mines@150 Student Signature Initiative.

Please let me know if there is any interest.

Sincerely,

Mark Florida  
Capstone Senior Design PA  
303 906 5859



October 21, 2020

**MINES@150 Student Signature Initiative Proposal**

Integrated Biomass Development and Fuel Conversion Facility

A proposed project for the Student Signature Initiative is to develop an integrated facility, which would use waste CO<sub>2</sub> to enhance the growth of biomass, and then convert the biomass to usable fuel. A natural gas operator with large volumes of CO<sub>2</sub> would be a good candidate for partnering and hopefully funding.

As CO<sub>2</sub> enhances growth of plants, CSM teams would test different biomass species and growth rates. The teams would also develop new processes for fuel conversion. Integration with a CO<sub>2</sub> producer could streamline processes, transportation and costs.

The National Renewable Energy Laboratory is working on some of the processes. Mines could be ahead of the game with an integrated system, which would be a great learning experience for Mines Teams for years to come.

Currently there are not any partners or funding defined.

Sincerely,

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