

Team **AIRBENDERS**

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PROBLEM: HVAC in Klaus Building Atrium

- 30 horsepower fan runs at single speed, 24/7 all year long
- Costs Georgia Tech \$12,000 per year
- Generates approximately 300,000 lbs of CO₂ emissions per year
- Major energy inefficiencies despite Gold LEED Certification (2006)

SOLUTION

- Install variable speed HVAC fan to adjust output for seasonality and occupancy
- Control heating and cooling based on a programmable time-of-day schedule
- Cost to implement: **\$19,390**

PROJECTED CARBON AND COST SAVINGS

- Roughly **75% reduction in energy use** from more efficient use of air handling fan, demand control ventilation, and heating and cooling
- **\$9,060 saved per year** (\$8,028 in fan savings and \$1,032 in heating and cooling)
- **Payback period: 2 years**
- **241,000 lbs of CO₂ emissions avoided per year**
- Status of project: Funded with construction currently underway

BOTTOM LINE

Technology that is both cost-saving and carbon-friendly is available for a large number of applications at small to large scales. Energy and resource efficiency can become an integral part of bi-partisan federal energy policy that can grow our economy while reducing greenhouse gas emissions.

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