

Mission Emission: Increasing Climate Change Accountability at the University of Georgia through Internal Carbon Pricing

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THESIS

To combat the effects of anthropogenic climate change and promote accountability within public higher education, the University of Georgia should implement an internal carbon pricing policy that incentivizes carbon emission reduction and increased student engagement.

BACKGROUND & ANALYSIS

Climate change poses the most significant threat of our time, with its effects already manifesting as widespread droughts, powerful hurricanes, and rising sea levels.¹ Though the impact of climate change is global, its ramifications are not evenly felt. Low-income, coastal, and agricultural communities will suffer disproportionately because of their constrained ability to prepare for and respond to erratic weather patterns.² If left unchecked, climate change is expected to depress the US economy by 10 percent and displace millions of citizens by 2100.³ Within Georgia, a state that is vulnerable to flooding and hurricanes and that has a high poverty rate, the effects of climate change have already begun to take a toll on local economies.⁴ Hurricane Michael destroyed more than \$1 billion in Georgia crops in October 2018, and projections indicate that almost 420 square miles of state coastline will be lost to sea level rise by 2100, destroying coastal communities and industries.^{5,6}

Atmospheric levels of carbon dioxide, the largest single contributor to climate change, have increased from 280 parts per million (ppm) to 409 ppm over the past 150 years.⁷ Though the majority of carbon dioxide production stems from livestock farming and industrial processes, institutions of higher learning are also contributors, accounting for ~2 percent of annual US greenhouse gas emissions.⁸ The University of Georgia (UGA) produced 319,000 tonnes of carbon dioxide in the 2014 fiscal year, the equivalent of burning approximately 36 million gallons of gasoline.⁹ Energy, including electricity and heating fuels, accounts for 84 percent of UGA's carbon dioxide production and costs the university more than \$18 million annually.¹⁰ A land and sea grant institution, UGA has a responsibility to protect the state's natural resources, coastlines, and ecosystems.¹⁴ It should uphold that responsibility, and meet its stated goal of reducing greenhouse gas emissions by 20 percent by 2020, by instituting an internal carbon pricing model.

TALKING POINTS

- Cutting UGA's electricity consumption will decrease spending and present a promising, achievable opportunity for reducing UGA's carbon emissions.
- Since 2010, the University Office of Sustainability has worked with the Climate Action Task Force to update the university's greenhouse gas emissions database. This model could pull from the existing record to track of each department's success in cutting carbon emissions.
- A 5 percent yearly reduction can be accomplished through a combination of small, concrete adjustments, such as unplugging desktops, turning off overhead lights in areas with natural lighting, or transition to more-energy-efficient light bulbs.

KEY FACTS

- UGA's 2020 strategic plan calls for a greenhouse gas emission reduction of 20 percent by 2020, from a 2010 baseline.⁹
- By 2110, nearly 50 percent of residential land, 48 percent of land used for transportation purposes, and 30 percent of commercial land is projected to be inundated on Georgia's barrier islands.⁶
- More than 1,200 companies and 30 colleges and universities worldwide have implemented or intend to implement internal carbon pricing as a cost-friendly solution to rising carbon dioxide emissions.¹⁵

THE POLICY IDEA

UGA should create a target reduction internal carbon charge that offers rebates to departments whose buildings exceed the target 5 percent net reduction in carbon dioxide emissions and issues financial penalties to departments that fail to cut their emissions by the same metric.

POLICY ANALYSIS

Institutions of higher education offer a unique opportunity for dual intervention: to both reduce carbon dioxide emissions and increase environmental engagement among faculty and students. An internal carbon pricing model at UGA would inspire the creation of innovative and cost-effective solutions to reduce the university's environmental footprint. As proven by the current success at Yale University, a redistributive system that rebates and charges groups based on average emissions reduction effectively improves overall sustainability at a given institution. Since the launch of Yale's Carbon Charge, in 2017, the university has reduced its carbon emissions across 250 buildings and saved an estimate of \$40 per ton of carbon dioxide not generated from the burning of fossil fuels.¹³ Similar studies have also been piloted at Vassar College and Swarthmore College, with each taking original ideas in their implementation approaches.¹² For instance, at Vassar, student engagement was prioritized, and it resulted in a boosted interest in sustainability university-wide, even promoting an uptick in the number students enrolling in environmentally related majors.¹¹

Although carbon pricing models have prospered at small, private universities, implementation at UGA would prove that implementation at a large, public university is feasible. UGA's scale will provide challenges, but it is possible to adapt the Yale model and tailor it to the needs of the university and surrounding Athens, Georgia, community. Involving the student body would serve the dual purpose of educating undergraduates from diverse cultural and socioeconomic backgrounds about an important global issue and encouraging more environmentally friendly habits in individual, day-to-day life.¹¹

A 5 percent yearly net reduction in carbon dioxide emissions would enable UGA to be carbon-neutral in 20 years. An internal carbon charge could help departments generate money to improve their operations¹¹ and encourage departments to use less energy, thus lowering their utility bills. In effect, a properly implemented carbon charge could provide UGA with a solution mutually beneficial to the university's budget and the environment while promoting large institutions nationwide to take action themselves.

Through redistributive carbon pricing and engagement initiatives, costs will be offset by administration appropriated funds, UGA sustainability grants, and the Environmental Protection Agency's P3—People, Prosperity and the Planet program. Financial resources would be primarily dedicated to investment in individual energy meters for further expansion of pilot programs.

NEXT STEPS

An interdisciplinary task force, including economics professors, environmental science professors, students, community coalition leaders, and administrators, has been created to oversee a carbon pricing initiative. Task force investigations of carbon pricing effectiveness at Vassar, Yale, and Swarthmore have indicated the feasibility of such a policy.¹² Through its Office of Sustainability, the university already engages in multiple environmental protection programs, including natural coastline defenses, reforestation programs, and solar subsidies; that infrastructure can be extended to encompass the new carbon pricing task force.

Further steps include garnering community support within the greater UGA community. Administrative contacts include David Williams, who serves as the head of the university's honors program, David Mustard (Economics), Quint Newcomer (Ecology), and members of the Office of Sustainability. Other task force members would include UGA students, Athens community college representatives, and officials from Athens-Clarke County Unified Government. The coalition will prioritize inclusion of students from a variety of disciplines, including members of the Athens Tech Sustainability Office, UGArden, the Lunchbox Project, and the Society for Conservation Biology. We will reach out to Casey Pickett, who directs the Yale Carbon Charge initiative, and others with experience in carbon pricing at institutes of higher education. Their expertise will help us shape and reform our policy to make sure that it is politically viable and implementable.

Successful implementation of our policy requires support from Jere Morehead, the current president of UGA, and the University System of Georgia Board of Regents, which can help us determine the scalability of the pilot program and potential for enacting this policy across all college campuses in Georgia.

ENDNOTES

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