The University of Texas at Austin
Center for Sustainable Development
School of Architecture

The Center for Sustainable Development (CSD) is seeking **TWO** Graduate Research Assistants (GRA) for the 2017-18 academic year (Fall-Spring-Summer) to investigate what economically viable opportunities exist on UT lands for greenhouse gas sequestration and offsetting. Both positions are 20 hour/week positions beginning September 1, 2017.

Project Brief: The University of Texas at Austin produces an estimated 650,000 metric tons of carbon dioxide in a given year. The oil and gas production on lands owned by the UT system produce even more. Given the ever-increasing concentration of greenhouse gases in our atmosphere, climate action is critical to the sustainability of our campus. This team will explore what economically viable opportunities exist on UT lands for greenhouse gas sequestration and offsetting. The research team will conduct research into the physical and economic conditions of UT lands, quantify the greenhouse gas emissions of current activities on those lands, investigate carbon offsetting and sequestering opportunities, conduct a site visit near Midland, Texas, develop and test three land use scenarios, identify the capital and maintenance costs of each scenario, calculate the return-on-investment for each scenario, identify a site for a pilot project, conduct a town hall meeting, and disseminate and present findings to stakeholders.

Required Skills:

- Familiarity with carbon offsetting and/or greenhouse gas emissions (including technical considerations preferred)
- Strong research, writing, editing, and graphic skills.
- Ability to work in an interdisciplinary manner.
- Strong communication, teamwork, and public speaking abilities.
- Creative problem solving skills.

Preferred Skills:

- Demonstrated experience with a feasibility study and site analysis.
- Familiarity with finance/accounting
- Experience with carbon offsetting methods and gas production. Experience with finance, accounting, and/or sustainability focused projects.

Please read through the abstract provided below before applying.
Interested applicants should submit a letter of interest, CV/resume, and relevant writing and work samples (5 page total max, please compile into one pdf document). All materials should be sent electronically in PDF format to csd@austin.utexas.edu.

Salary: **$16/hour.** While no tuition stipend is included (not an eligible budget item per green fee budget rules), this position is eligible for health insurance benefits and the resident tuition entitlement, if the selected candidate is from out of state.

Position dates: **September 1, 2017 – August 31, 2018**. This position requires a full year commitment.
Application deadline: **Friday, August 18**

Abstract

One cannot separate the history and success of The University of Texas at Austin from its relationship to the oil and gas industry in Texas. From the discovery of oil on lands owned by the UT system in 1923, The University of Texas at Austin has enjoyed significant funding for educational activities that derive from oil and gas production and consistently ranks in the top five American universities with the largest endowment. Given the depth of the university's lucrative involvement in the oil and gas industry over the past century, it is unlikely that the university will approach carbon mitigation through divestment or instituting a carbon neutrality goal. UT's culture is different from that of the universities like Maine or Stanford that have divested from fossil fuels. The research team will investigate which carbon offsetting activities are compatible with current practices on UT lands, taking into account the investments needed to implement them and the potential economic benefits that they may provide.

This project represents a partnership between the **School of Architecture's Community and Regional Planning (CRP)** program and the **Jackson School of Geoscience's Earth and Energy Resources (EER) program**. Each program will recruit a skilled and competent graduate student to form an interdisciplinary team responsible for the bulk of the research, with four faculty members from CRP and EER serving as advisors.

The project will follow three stages: 1) background research and site visit, 2) scenario analysis, and 3) distribution of findings. **In fall 2017 research team will begin the project by conducting a thorough investigation of existing economic and physical conditions on UT lands** in order to determine the benefits of current use and identify opportunities for sustainable innovations. The economic analysis will include an investigation of current oil and gas leases, research into current business and legal processes for leases, an identification of stakeholders, inquire into the feasibility of producing carbon credits, and will develop an emissions profile for current activities. The physical analysis includes a quantification of available acreage and determination of current land uses, an investigation into the biophysical characteristics of the land, and the production of suitability maps for potential carbon sequestration and ecological service activities. These activities will take place during the fall semester of 2017. Products will include a series of suitability maps that outline prospective activities on UT lands. These maps and the economic research findings will inform the activities for the team's site visit to Midland, Texas—the headquarters for UT Lands. During this site visit the team will meet with UT Lands officials, at least one lease holder, and will evaluate a potential site for a pilot sequestration project.

In the spring of 2018, the team will conduct scenario analyses for carbon sequestering and offsetting activities on UT lands. Using the information gleaned in the research phases and in the site visit, the team will determine approximately three scenarios for carbon sequestering ecological activities on the lands that could generate vendible carbon credits. For each scenario the team will analyze: 1) the ecological and carbon sequestering potential of the proposed activities, 2) the investments required for implementation and operation, 3) the return on investment for credits sold over the short-term and the long-term, 4) the amount of carbon sequestered compared to the amount generated by UT lands oil and gas production and the operations of The University of Texas at Austin. The team will also identify a course of action on a pilot site where these principles could be tested in further research. The faculty advisor team

will formally review the results of scenario analysis. After incorporating faculty remarks, the research team will present the results of the various scenarios to the university community in a town hall-style meeting in order to communicate the impact of their research and to gauge community response and receptiveness to their plan.

The summer of 2018 will provide the researchers time to synthesize their findings, produce recommendations, craft a final report, and communicate and distribute the results of the report to stakeholders. This report will contain a clear explanation of the current use of UT lands, the potential for carbon offsetting and sequestering activities, the financial and economic implications of offsetting activities, and recommendations on a course of action.