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Urban Forestry Tree Planting Project Brief FAQ



**The Duke Carbon
Offsets Initiative**
DUKE UNIVERSITY

Urban Tree Planting Program

What is your budget?

Schools have the option of purchasing offsets directly from Urban Offsets for a set price per ton, or licensing the Urban Offsets software for \$3,000 per year and completing all data management and carbon calculations themselves. For either, the total cost of the program will depend on the number of offsets desired. If your school would like to purchase offset directly from Urban Offsets, please contact Urban Offsets to get a quote.

These are estimated costs and they can vary depending on the size and species of tree and the local cost of labor. If students and volunteers became involved in the planting or data collection, this could potentially lower costs of the project through a student scholarship. The DCOI may also have some matching funds available depending on the project.

What is your staff capacity and time availability?

Involvement with this project can range from minimal engagement to a completely self-run program. At a bare minimum, only funding is required and the school can directly purchase offsets. There could be a small time commitment from staff and faculty as well to ensure that project implementation is successful. Each school should be aware of the nuances of the project and help maintain and track offsets produced by the project, and also provide feedback to Urban Offsets and the DCOI.

However, substantial benefits can be realized if schools deepen their involvement. While Urban Offsets will pay cities to purchase and take care of the trees, your school could get involved in program management and development by:

- Collecting and analyzing urban tree growth and health data
- Coordinate student and employee volunteer tree planting events
- Learn about proper care of trees
- Identify ways to incorporate projects in future faculty and student research
- Assist with offsets verification

What are your school's climate goals?

Does your school have emission reduction targets or aim to become climate neutral? If your school aims to become climate neutral, carbon offsets may be a part of the process of reducing total institution emissions to zero. Perhaps your school does not have any emission reduction targets and is looking for a way to collaborate with the local community. Regardless of targets, a local, urban tree planting project will be able to help your school meet any climate goals, while also providing valuable opportunities for the school's students, staff, faculty, and alumni to engage with neighboring communities.

Depending on the magnitude and timeline of your school's climate goals, you may need offsets now or farther into the future. This program has the flexibility to fit any timeline your school may have while providing carbon offsets and benefits to the local community.

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Can I plant trees on my campus?

Urban Offsets and the Duke Carbon Offsets Initiative developed this program with the goal of developing partnerships between schools and local cities to foster healthy urban forests. Therefore, the protocol and program was designed for planting on city or county owned property. Granted, this does not preclude a school from building their on-campus forest. However, on-campus offset projects would require the school to collect data on current trees on campus.

First, the school must establish a baseline of past carbon stocks and tree plantings on campus to ensure that the carbon stocks are higher than would be in a business-as-usual scenario. A baseline can be assessed by conducting a survey of trees on campus to estimate the total carbon stock, as well as taking an inventory of all recent tree plantings and removals within the past 5 years to calculate average carbon additions. A survey of trees can be done through a tree-by-tree measurement of height and diameter, a representative sampling of trees on campus, or by using remote sensing techniques such as LiDAR.

How is the money from offset sales used?

The money earned from the sale of carbon offsets is used to fund the following things:

- The purchase of trees
- The purchase of planting materials (tree stakes, mulch, etc)
- Annual payments to the city for maintenance of trees
- The payment for use of Urban Offsets' data collection software
- The payment for use of Urban Offsets' offset management database

Other Questions to Consider:

- What is the level of carbon offsets and/or urban forestry expertise of your school's staff and faculty?
- Has your school developed any other carbon offset projects?
- Does your school already partner with other schools on sustainability projects?
- How much do you want students, staff, and faculty involved?
- Does your school have student organizations that focus on sustainability or community service that may be interested in this type of project?
- Do you want to create educational opportunities by incorporating this project with student research?
- What is your current relationship with local communities and organizations and how important is it to you to develop new partnerships with local organizations with the goal of planting more trees?

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Project Example*

North University (NU), located in Waterbury, North Carolina, has set a goal of becoming climate neutral by 2030. NU has invested in energy efficiency on campus, employed energy conservation programs for students, and has reduced its use of coal for its on campus steam plant. However, after all of the on-campus work NU still has 43,000 annual CO₂e emissions that need to be eliminated. Therefore, NU is looking to develop local carbon offset projects to help them get to zero emissions by 2030.

North University recently heard about a tree planting project that Duke University did in Wilson, NC and reached out to Duke to learn more. Duke, in partnership with Urban Offsets, met with North University sustainability staff to discuss and develop a planting project in the city of Waterbury. Urban Offsets and North University worked with the Waterbury urban forestry department to select 100 trees and a site for the tree planting event. The city foresters and North University choose trees that will produce 600 carbon credits in total over the 40-year project life.

North University contracts with Urban Offsets for the purchase of 550 carbon offsets from the project. The other 50 offsets will be held by Urban Offsets in a buffer pool to protect against tree mortality. Urban Offsets contracts with the city of Waterbury and pays the city to purchase the trees and maintain the trees over the lifetime of the project. This includes an upfront payment to acquire the trees and an on-going annual payment for proper maintenance of the trees.

The city of Waterbury purchases seedlings 1” in diameter from a local nursery and plants them on city-owned property. Thirty days after the trees are planted, the city of Waterbury conducts its first monitoring event by collecting data on the growth and health of trees in Urban Offsets’ data collection software. Then Urban Offsets sends the data from to Duke University and students validate the project.

Urban Offsets directs the city of Waterbury in its annual monitoring and maintenance responsibilities and pays the city of Waterbury after each year’s monitoring event to supplement the maintenance burden for project trees. Duke staff or students verify the project every 5 years.

During project verification, Duke University staff or students will conduct a site visit and measure the height and diameter of the project trees as well as assessing the health of the trees. These measurements will be used to estimate carbon offsets produced by the project. All carbon offsets verified to have been produced by the project will then be made available to North University.

**This is a hypothetical example*

To learn more about becoming a partner school, please contact the program staff below:



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