

Understanding the Role of Domestic Urban Forestry in Voluntary Carbon Markets

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As voluntary carbon markets continue to develop in the U.S. it remains unclear if and how urban forestry groups, both public and private, can participate. The multiple benefits of urban trees are generally understood but many wonder if it is verifiable, effective, and feasible to support tree planting in cities through the sale of carbon offsets. Few examples of successful initiatives exist to serve as models for participation and while the perspectives and knowledge of project participants are important, there lacks a means to disseminate this information. This master's project will focus on a clear and comprehensive examination of the role of domestic urban forestry in voluntary carbon markets. Through structured interviews and site visits, I am developing case studies on successful, developing, and attempted projects nationwide and will explore the major obstacles faced and opportunities presented to the groups involved. Market chain analyses will be used to depict the roles and relationships among the players involved enabling the development of general models for participation and examination of the major barriers and opportunities.. I will present my findings through journal articles, case studies, on my research team's website at www.uvm.edu/forestcarbon, and by engaging with urban and community forestry professionals and stakeholders.

Case Studies

- * The Sacramento Tree Foundation and Harbison-Mahoney-Higgins Builders, Inc. (*completed*)
- * The CarbonPlus Calculator: US Forest Service collaboration with Boston, Philadelphia, New York City, Baltimore, and Westminster, CO (*in development*)
- * The Cascade Land Conservancy and Pearl Jam: The Carbon Mitigation Program (*in development*)

Potential Upcoming Case Studies

- * Michigan State University's Urban Forestry Project on the Chicago Climate Exchange
- * Treefolks in Austin, TX and their carbon footprint calculator
- * TreeUtah and the Salt Lake City Visitor's Bureau
- * Idaho Community Forestry Advisory Council and the National Carbon Offset Coalition, Inc.
- * Tree New Mexico's 2005 Carbon Neutral Program
- * The NFL's 2005 Carbon Neutral Initiative with Greenscape of Jacksonville, the Greening of Detroit, and TREEmendous Miami

RESEARCH QUESTIONS:

What are the major barriers and challenges for domestic urban forestry groups in participating in voluntary carbon markets?

What are the major opportunities?

How feasible is it for urban forestry groups to raise funds through carbon offset mechanisms?

What project types are working and why?
Can they be applied elsewhere?



For more information or to suggest case studies or interviews please contact Elise Schadler at elise.schadler@uvm.edu or at 609.605.6322.

Existing and Developing Case Study Overviews



Carbon Offsetting through Urban Tree Planting: The Sacramento Tree Foundation and Harbison-Mahony-Higgins Builders, Inc.

In 2008 a local building contracting business entered into a five-year \$50,000 voluntary contract with the nonprofit organization the Sacramento Tree Foundation to offset the emissions of the company's new vehicle fleet. By the end of the third planting season (2010) funds from the agreement will have resulted in the planting of 348 trees on private property throughout the Sacramento region, translating into 1,599 tons of carbon dioxide equivalent (tCO₂e) offset. The details of the agreement and the calculations associated were developed internally. This project highlights a mechanism for carbon offsetting that incorporates an interest in supporting local sustainability, urban forestry, a private and nonprofit collaboration, and the residents of Sacramento, who care for the planted trees.



The CarbonPlus Calculator: Local Emissions, Local Projects, and the Engagement of Local Residents

The CarbonPlus Calculator (CPC) is an online emissions offset tool. It has been funded by the U.S. Forest Service and developed in collaboration with the Davey Institute of Tree Sciences since 2007. While the first version of the CPC was created with and for the City of Boston, subsequent versions were created for Baltimore, Philadelphia, New York City, the state of Vermont, and Westminster, CO. The goal of the CPC is to allow residents of each respective region to support local greening and energy efficiency projects through an online carbon footprint offset tool. Modeled after the U.S. Environmental Protection Agency's Personal Emissions Calculator, each region's version of the website is customized to best represent the greenhouse gas emissions, energy usage, and specified data about urban greening and existing canopy cover. Further, the nonprofit organization(s) and municipal office(s) involved with each separate region's version of the CPC decides how the tool is used. Philadelphia has launched the CPC and raises funds for tree planting in city parks while New York City has decided to use it as an educational tool; the remaining regions are still developing their CPC based on their own objectives and organizational capacities.



The Cascade Land Conservancy: Carbon Mitigation through Restoration and Municipal Partnerships

The Cascade Land Conservancy's (CLC) innovative Carbon Mitigation Program combines funding for greenhouse gas emissions mitigation with restoration of forested parklands and natural areas in the Seattle region. The cities of Seattle, Kent, Kirkland, Redmond, and Tacoma are involved with the CLC through the Green City Partnership program, which involves the collaborative development of a 20-year strategic plan. Through the Carbon Mitigation Program, which was launched in early 2010, invasive species removal, native tree plantings, and monitoring are activities funded in order to restore forested areas within the five cities. Pricing per ton of carbon equivalent mitigated is based on a "Tree-iage" developed by the CLC to gauge the value and threat of specific acres and all calculations and project guidelines were developed in-house using U.S. Forest Service reports and the Carbon Action Reserve's Urban Forest Project Protocol as a guide. The pilot project for this program involved a collaboration with the band Pearl Jam to mitigate the band's 2009 World Tour carbon footprint of 7,000 tCO₂e with the restoration of 33 acres for a total of \$210,000.



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