

Urban Forestry and Implications for Emerging Voluntary Carbon Markets



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DECEMBER 16TH, 2011

NORTHERN NEW ENGLAND FORESTS
RESEARCH SYMPOSIUM

Urban Forestry Context



- Protocols for Urban Forestry VCM projects:
 - ✓ One project ever registered on CCX
 - ✓ Climate Action Reserve released first version of Urban Forestry Project Protocol in 2010; no registered projects
- Multiple co-benefits of urban trees:
 - ✓ storm water mitigation
 - ✓ urban habitat creation
 - ✓ avoided emissions from heating and cooling
 - ✓ property values increases
 - ✓ air quality enhancement
 - ✓ crime rate mitigation
 - ✓ community revitalization
 - ✓ volunteerism



Methodology



- Initial scoping through Alliance for Community Trees member list
- Case studies identified
- Site visits
- 40+ interviews
- Coding



Urban Forestry Case Studies

- **Sacramento Tree Foundation & Harbison-Mahoney-Higgins Builders**

- ✓ *Local business pays non-profit to offset specific emissions through private tree planting program*



Photos courtesy of the Sacramento Tree Foundation



Urban Forestry Case Studies

- **Michigan State University & the Chicago Climate Exchange**

- ✓ *Carbon sequestered by campus trees used internally to help meet institution's climate commitments*



Image from Google Earth

Urban Forestry Case Studies

- **The Cascade Land Conservancy's Carbon Mitigation Program**

- ✓ *Donors pay non-profit to carbon mitigation that finances restoration of municipal forests*



Photos courtesy of the Cascade Land Conservancy

Urban Forestry Case Studies

- **The CarbonPlus Calculator**

- ✓ *U.S. Forest Service offers a customized, online carbon calculator to cities to educate users and raise funds for tree planting by local non-profits*

The screenshot shows the 'BOSTON CARBONPLUS CALCULATOR' website. At the top, there's a header with the city skyline and a 'Home' button. Below the header, a section titled 'I Want To Estimate My CO₂ Emissions For:' contains four buttons: 'My House', 'My Car Travel', 'My Air Travel', and 'My Business'. Each button has a '\$0' value. To the right, a green box displays 'My Total Emissions: CO₂ tons/yr 0' and 'Value: \$0'. Further right, a blue box titled 'ACT LOCALLY!' contains three buttons: 'REDUCE My Emissions', 'OFFSET My Emissions', and 'Take The Carbon Pledge'. Below this, a circular diagram with a globe in the center is surrounded by five icons and text: 'Calculate your Household emissions', 'Calculate your Car emissions', 'Calculate your Air Travel emissions', 'Calculate your Business emissions', and 'More Information'. The central text reads: 'Help create a greener Boston! The Boston CarbonPlus Calculator will help you calculate your local impact on the environment and show you how, with small changes, you can make Boston greener. After calculating your impact you can offset your emissions by purchasing Boston Green Certificates.'

<http://carboncalculator.growbostongreener.org/>



http://blog.rlove.org/2006_10_01_archive



<http://www.nyrp.org/email/newsletter/mtnyc/2009/mar/index>

Urban Forestry Case Studies



- TreeFolks & the City of Austin

- ✓ *Partnership between local government and an established non-profit aligns carbon neutrality goals with the creation of carbon offsets through local greening initiatives*



Photo courtesy of the City of Austin



Photo courtesy of TreeFolks

Urban Forestry Barriers from Interviews



BARRIERS	FREQUENCY
Complexities of developing a high quality offset/project	35
Lack of organizational capacity to develop and administer a project	17
Inadequate Marketing Resources	13
The perception that carbon offsets can't cover the costs of urban and community forestry	12
Lack of models	12
Uncertainties about offsets and the voluntary carbon market	12
Lack of federal regulation	11
Concerns about up-front costs and effort	10
Concerns about accounting and ensuring funds are directed to the right place	9
Challenges of working within a bureaucratic system	8
The state of the economy	8
Concerns about existing protocol (CAR)	8
Lack of uniformity and standards	8
The limited potential of urban forests to sequester carbon	7
Employee turnover	2
The pitfalls of being an early adopter	2
Difficulties around maintaining good relationships with partners	2

Urban Forestry Opportunities Identified from Interviews



OPPORTUNITIES	FREQUENCY
Supporting local initiatives and targeting local populations	23
Institutional sustainability goals and initiatives	23
Interest within the urban forestry community and from the public	17
Highlighting the co-benefits of urban trees	15
Resources are increasingly available	15
Using existing or creating new partnerships	15
Without uniform standards, ability to use creativity and liberty in project design	12
Existing organizational capacity	11
Promoting sustainability education and behavior change	7
The pre-compliance market	6
Leveraging and raising funds for urban and community forestry	6
Fostering small-scale and bottom-up approaches to climate change	6
Greening new spaces	4

General Findings

- Price per ton of carbon offset or mitigated ranges from \$.05 mtCO₂e (CCX) to \$130 mtCO₂e (CLC)
- Opportunities to work with strengths of tree planting groups
- Lessons from forest certification: intermediaries or group certification?



Products



- Case Studies
- Website (www.uvm.edu/forestcarbon)
- Quick Guide for practitioners
- Article on the CarbonPlus Calculator
- Article on opportunities & barriers
- Popular piece for ACT newsletter
- Possible ACT web training

Acknowledgements



- Committee members
 - Dr. Cecilia Danks, Advisor
 - Dr. Joshua Farley
 - Dr. Mark Twery
- Collaborators
 - Forest Carbon and Communities Workgroup
 - The Alliance for Community Trees
- Funders
 - National Urban and Community Forestry Advisory Council
 - USDA Forest Service



www.uvm.edu/forestcarbon

**Unless otherwise noted, all photographs were taken by Elise Schadler*