



## **CARBON OFFSETS & THE URBAN FOREST:** WHAT'S NEEDED TO GET URBAN FOREST OFFSET PROJECTS STARTED?

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## **Starting Urban Forestry Carbon Offset Projects in California**

### **Constraints:**

- **High monitoring, verification, & transaction costs**
- **Stringent eligibility requirements/exclusion of NGOs**
- **100-year permanence requirement**
- **Zero canopy net-loss requirement**



## **Starting Urban Forestry Carbon Offset Projects In California**

### **Solutions:**

- **Graduated transaction costs (low to begin)**
- **Research cost-effective/streamline monitoring & verification processes**
- **View an urban forest as a long-gestation, high-yield business & long-lived investment**
- **Zero canopy net-loss is already a development requirement in some orgs**



## **Entities and Projects Best Positioned to Create Successful Projects**

- \* **Municipalities (Tree City USA Designation)**
- \* **Educational Campuses (Tree Campus USA Certification)**
- \* **Utility Companies (Tree Line USA Recognition)**

## Tools Necessary to Starting Urban Forest Projects - 1

- \* Educate political leadership & decision makers on carbon footprint reduction through urban forestry



## Tools Necessary to Starting Urban Forest Projects - 2

- \* Mandate Climate Action Plans to include an Urban Forestry component



## Tools Necessary to Starting Urban Forest Projects - 3

\* Provide  
Urban Forestry education,  
with emphasis on the  
environmental  
& socio-economic  
services of  
healthy forests

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**Campus Urban Forest Becomes Living Laboratory**  
*Environmental Science Students Team with Campus Forester to Better Understand Role Trees in Global Climate Change*


Ioana Patrinenaru | February 8, 2010

It's not every day that UC San Diego students have class outside, with the sound of chain saws in the background. But that's exactly what about 40 undergraduates did on a rec Friday morning.

Armed with measuring tape and a bathroom scale, they measured and weighed a tree that UCSD crews were cutting down because it had become unstable. The goal was to calculate how much carbon the tree held. The exercise was part of John Niles' environmental science class, titled "Global Carbon Science Politics: The Road from Copenhagen." It's also an example of the hands-on approach that the campus has been adopting in many classes.

Understanding how much carbon a tree holds is important because deforestation accounts for about 15 percent of greenhouse gas emissions that cause global warming. "It's a big part of the problem," Niles said. Once a tree is cut, it will ultimately emit the carbon it holds, he explained.

The exercise also allowed UCSD's Facilities Management department to test students



John Niles, a UCSD lecturer, shows his student to measure a tree and determine the amount of it holds.

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## Tools Necessary to Starting Urban Forest Projects - 4

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**Green in more ways than one: UC San Diego's campus trees pay big eco-dividends** [Email this](#)

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Trees absorb carbon dioxide as they grow, providing cooling shade for people and buildings in addition to serving as habitat for birds and other wildlife. But exactly how much can trees reduce an institution's carbon footprint and save in cooling and other costs? The University of California San Diego, one of the nation's greenest universities, discovered that the total effect of its 200,000 trees was a reduction of nearly 10,000 tons of carbon dioxide emissions per year, or 5 percent of its annual emissions. The total annual savings attributed to the trees were \$2.2 million.

With the April 24 celebration of Arbor Day, the positive impact of UC San Diego's trees is heartening news for tree-lovers and institutions eager to trim operating costs. The trees help reduce energy use by 12,886 megawatt-hours by consuming solar energy through the process of "evapo-transpiration" and by blocking winter winds, according to the study conducted for the Facilities Management Department at the university. Through direct shade, the trees provide even greater energy-conservation benefits.

The forest study, conducted by Kelaine Vargas, an urban ecologist of Urban Ecos in San Francisco, is the latest component of UC San Diego's multi-faceted sustainability and climate-change research initiatives. Assessing and reporting the climate impact of urban forests is a new field and few comprehensive studies of individual urban forests have been completed. (See the study [here](#).)



UC San Diego's campus forester Samuel Odunde and Chance Marye Anne Fox plant a eucalyptus tree to mark the campus' designation as a Tree Campus USA.