



SUSTAINABLE URBAN FORESTS COALITION

Urban Forests Curb Greenhouse Gases

- Trees remove greenhouse gases (GHG) from the atmosphere by capturing carbon.
- Trees reduce GHG through energy conservation.
- Trees provide comprehensive ecological benefits exceeding any singular CO2 reduction program or strategy.



REFERENCES

The State of the Chesapeake Forests, report by the USDA Forest Service and the Conservation Fund
p. 65.

American Forests:
www.americanforests.org/resources/urbanforests/success

The Effects of Urban Trees on Air Quality, Dr. David J. Nowak, USDA Forest Service, Northeastern Research Station, SUNY-CESF, Syracuse, NY,
www.fs.fed.us/ne/syracuse

Sustainable Urban Forests Coalition (SUFC) members are national organizations advancing a unified urban forest agenda.

www.urbanforestcoalition.org

Quantifiable Urban Tree Facts

Increasing tree canopy is a critical component of climate change solutions in urban areas.

- **In one year, urban tree canopy absorbed more than 500 metric tons of air pollution in Baltimore and nearly 400 metric tons in Washington, DC.**
(State of the Chesapeake Bay, 2008)
- **Houston's tree canopy has declined-16% over the past three decades. Without trees to absorb air pollutants, Houston lost \$38 million annually in air pollution removal services (and \$237 million in stormwater management services).**
(American Forests website, 2009)
- **The net cooling effect of a young, healthy tree is equivalent to 10, room-size air conditioners operating 20 hours a day.**
(US Forest Service, Northeastern Area)

Ecological Value of Urban Forests: Quantitative Measurements

The USDA Forest Service released a state-of-the-art, peer-reviewed suite of software tools called *i-Tree* to calculate environmental service benefits for communities. These and other tools can statistically estimate various urban forest functions and the value of services such as **air pollution removal, carbon sequestration, and energy conservation.**

Other software programs created by American Forests' (*CITYgreen*) and ICELI also assess the health of a community's urban forest and its ecological and economic benefits. All these tools provide critical information to support, manage, assess and project costs and benefits of healthy urban forests and liveable cities.

Smart Placement and Maintenance of Urban Trees

- Tree site selection is key to maximizing environmental and economic benefits of urban forests. Strategic tree positioning ensures energy efficiency savings for buildings (reducing heat loss in winter and shading for reduced air conditioning needs).
- Long-term tree maintenance and care is critical to the health of any urban forest. The older and larger the tree canopy of a tree, the greater the environmental benefits.
- All urban tree planning and planting programs should involve a diverse group of tree experts (arborists), nursery/tree growers, urban planners, utility arborists, and community organizations.

Case Study: Chattanooga, TN

Chattanooga, TN is working aggressively to reduce their carbon footprint. Chattanooga recently developed a Climate Protection Plan that increases tree canopy cover throughout the city and especially in the downtown business area. Recent software analysis estimates Chattanooga's current tree cover sequesters 23% of the city's annual emissions and its street tree population alone sequesters 20,000 metric tons of CO₂ each year. "Trees play a major role in our carbon footprint reduction and we now have the scientific data to back up," explains Gene Hyde, Chattanooga City Forester and Chair of the Chattanooga Green Committee.

NOTE: The US Conference of Mayors Climate Protection Agreement has 12 strategies each mayor/municipality should consider for GHG reductions. Strategy #11 is: "*Maintain healthy urban forests; promote tree planting to increase shading and to absorb CO₂.*" Over 900 mayors have signed onto this Agreement. Chattanooga and many other cities are well on their way to meeting their GHG reduction goals through their urban forest initiatives.

Win-Win Scenario

A healthy and thriving urban forest provides far more than a reduction in green house gases. Urban trees provide many other services such as storm water retention, increased property values, extensive social and health benefits, *as well as* diverse green sector jobs (nursery industry, arboriculture, landscaping, training, education etc.).

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