



*Partnering with Utility Companies to Plant Trees
The Value of Shade: Energy and Climate Impacts*

A Resource List

BROWN BAG LUNCH SERIES

The Brown Bag Lunch Series is a monthly webcast held at the lunch hour and made possible through support from The Home Depot Foundation. The goal is to provide training opportunities for local urban and community forestry practitioners. The trainings highlight successful programs and practices that you may want to adapt in your communities. Webcasts are open to all.

Correctly planting and protecting trees is a good thing to do. However, planting and protecting trees also requires coordinating time and resources. ACT minimizes such requirements by sharing the innovative ideas and organized approaches of successful projects and models for members to replicate. We invite you to join the Alliance for Community Trees for more ways to get involved. Together, we create a strong voice on behalf of the urban forest and make a great difference in the health, beauty, and livability of our communities. We strengthen communities by offering action-oriented approaches that bring people together around a common purpose.

TOPIC

The utility sector is the largest single source of greenhouse gas emissions in the U.S. today, where heating and cooling homes accounts for nearly 60 percent of residential electricity usage. Needless to say, the utility sector is a major focus of climate change and energy security discussions. If you think that markets, incentives, and entrepreneurs are the answer to energy efficiency, then the partnership between tree organizations and utility companies makes sense. Trees reduce ground level ozone and clean CO₂ from the air while providing shade and ultimately cutting energy usage by up to 30%. Trees also cool cities by 10-20 degrees, helping cities to meet air quality standards for federal highway dollars. More information at: http://actrees.org/site/resources/events/partnering_with_utility_companies_to_plant_tr.php

Concern about carbon emissions and associated climate change, along with rising fuel costs, have made energy conservation a pressing public policy issue. Increased planting of urban shade trees has been suggested as one way of conserving energy by reducing the demand for heating and cooling. Indeed, some utility companies offer customers free or reduced-cost trees. However, no studies of utility billing data had shown that trees reduce energy consumption. More information at:

http://actrees.org/site/resources/events/the_value_of_shade_energy_and_climate_impacts.php#more

TRAINERS

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Joan Lionetti

Joan Lionetti is the tireless Executive Director of Trees for Tucson and Tucson Clean & Beautiful. Trees for Tucson has a goal to plant 500,000 new trees in order to increase the city's tree canopy by 30%, which is expected to save \$20 million a year in air-conditioning costs when the trees reach maturity. This is especially impressive when you consider that in 1875, there were reportedly only three trees in the town. Trees for Tucson has won Arizona's Take Pride in America Award. Joan is a mother of three, grandmother of three, and one of the original founders of ACT.

Patty Petersen

Patty Petersen has been a horticulturist and Field Coordinator with Trees Forever for the past 17 years. Her work includes coordinating planting, fundraising, training staff, reviewing site plans, and promoting trees in the media. Patty is a member of the International Society of Arboriculture and the Iowa Arborist Association, is ISA Certified, and sits on the Board of Directors for the Iowa Association for Energy Efficiency and the Iowa Urban & Community Forestry Council. Previous to Trees Forever, she worked as a horticulturist for Iowa State University Extension. She holds a B.S. in Horticulture from Iowa State University.

Misha Sarkovich

Misha Sarkovich is Program Manager at the Sacramento Municipal Utility District (SMUD). His current responsibilities include managing District's energy efficiency programs, such the Cool Roof, Shade Tree, and Multifamily. Past responsibilities include performing financial impact and process evaluations for the various District's energy efficiency and demand side management programs, load research, statistical and cost-effectiveness analysis, and market research to support development of new energy products and services. Misha earned his Ph.D. in Economics from Florida State University in Tallahassee, (1985) and a BA & MA, in Economics from California State University in Sacramento (1980 & 1979).

Jacobe Caditz

Jacobe Caditz is the Director of the Sacramento Shade program at the Sacramento Tree Foundation. Jacobe has a B.A. in Latin American Studies from the University of Chicago and an MBA from the University of Pacific. He works to create healthy and sustainable communities through urban forestry.

Geoffrey Donovan

Geoffrey Donovan is a research forester for the USDA Forest Service's Pacific Northwest Research Station. His two main research areas are the economics of wildfire and the economics of urban forestry, and his urban forestry work includes studies quantifying the effect of trees on property value, energy use, crime, and health. Geoffrey has a bachelor's degree in biochemistry from Sheffield University and a doctorate in forest economics from Colorado State University. To see a selection of his publications, visit: <http://donovan.hnri.info>





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SUCCESS STORIES- Municipal/Community-Owned Utilities

Sacramento Tree Foundation (Sacramento, CA)

Partnering with the local electric utility, Sacramento Municipal Utility District (SMUD), the Shade Tree Program provides education and quality trees to residents with the goal of shading buildings and reducing energy consumption. Each year, SMUD invest over \$1 million into this program for the Sacramento Tree Foundation to hire staff, purchase trees, and provide other support to ensure success. In addition, SMUD gives out 4,000 strategically placed shade trees that will return long-term rewards and engages thousands of volunteers in the planting and care of trees. Sacramento County residents are eligible for up to 10 free trees through the Sacramento Shade Tree Program. Since 1990 almost 400,000 trees have been planted through the program- making this a nationwide model for utility nonprofit partnership. The Sacramento Shade tree program offers more than 25 trees of varying sizes. All of the available trees are deciduous, so they shed their leaves in the fall to allow the warm winter sun into your home. Residential customers who want a tree need only schedule an appointment with a Sacramento Tree Foundation Community Forester to discuss the best location for the trees. The Foundation will deliver the tree with all the necessary supplies including trees, stakes, ties, and fertilizer. In addition, SMUD funds another urban heat-island mitigation effort, Community Shade. SMUD offers free 15-gallon container trees for planting in public areas such as parks, playgrounds, and schools. These trees provide additional indirect cooling of the urban heat island via evapotranspiration, as well as help beautify public places. More information at: www.sactree.com

Trees Forever (Marion, IA)

In 1991, Iowa established a law that energy companies had to dedicate a certain percentage of their conservation dollars to trees. While some companies do tree giveaways, Trees Forever established a relationship with Alliant Energy and Aquila that continues today. The programs are called We Dig Your District and Branching Out. Through these programs, the energy companies support Trees Forever with funds that are passed-through in increments of \$500-10,000 to municipal committees (nonprofit or governmental) to plant trees. Trees Forever provides the expertise and support. The partnerships promote tree plantings to save energy and to protect and enhance the environment, and are designed to act as a catalyst for qualifying communities or organizations that need trees and have citizens willing to work cooperatively for the long-term benefit of their communities. Every project focuses on long-term tree care with a special emphasis on energy efficiency and conservation. More information at: www.treesforever.org

Greenscape of Jacksonville (Jacksonville, FL)

Originally developed in 1986, the Treaty Oak Conservation Program grew from a plan implemented to serve as a low-cost method of growing live oak trees to plant on JEA properties. Treaty Oak seedlings are donated by JEA to Greenscape of Jacksonville. The seedlings are sold at Greenscape's annual flowering tree sale along with other varieties of trees, and proceeds are used to support future Greenscape projects. Also, since 1995, JEA has donated 300 to 500 trees per year through the GreenPower Partnership. Greenscape volunteers plant the trees in area parks, tree-deficient neighborhoods and at new homes constructed through the Habijax program. The trees that JEA supplies are native species cultivated at the Montgomery Correctional Center and range from 8 feet to 10 feet in height. Finally, through the Green Releaf partnership, Greenscape of Jacksonville is able to provide free trees to schools, parks and neighborhood organizations to improve the urban forest. The trees must be planted on public property, which may include utility easements and street medians. More information at: www.greenscapeofjacksonville.org





Alliance for Community Trees
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Tennessee Urban Forestry Council (Nashville, TN)

In 2007, the Tennessee Urban Forestry Council, in partnership with the Municipal Technical Advisory Service (MTAS, an advisory arm of the University of Tennessee), unrolled an education class on urban forestry for all locally elected officials in municipalities. In 2008, the classes added a session on utility arboriculture for municipally owned utilities. More information at: www.tufc.com/

Canopy (Palo Alto, CA)

Canopy's Right Tree in the Right Place (RTRP) program coordinates the removal and replacement of problem trees that grow to interfere with utility lines. Working with the City of Palo Alto's Utility Department, Canopy mediates occurrences on a case by case basis, working with residents and City staff, ultimately replacing with species that need less pruning and maintenance.

More information at: www.canopoy.org

Los Angeles Department of Water & Power (Los Angeles, CA)

The LADWP Trees for a Green LA Program in partnership with Million Trees LA has made it simple for Los Angeles City residents to receive free shade trees through the Trees for a Green LA program (TFGLA). Participants must complete an online workshop on how to properly plan for, plant, and protect trees, submit a completed tree order and site plan, and then plant and care for the trees that LADWP delivers.

More information at: www.ladwp.com/ladwp/cms/ladwp000744.jsp





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SUCCESS STORIES- Privately-Owned and Publicly-Traded Utilities

Trees for Tucson (Tucson, AZ)

Since 1993, Trees for Tucson has planted 55,000 trees through their partnership with Tucson Electric Power. Through this \$90,000 annual program, Tucson metropolitan area residents can receive up to two trees (five and fifteen gallon), delivered directly to their homes, for \$6.00 each, if they agree to plant them on the east, west, or south side of their home. As a result of this partnership, Trees for Tucson went on to host the first Cool Communities Conference in 1998, talking about parking lots and rooftops. In partnership with Tucson Electric Power, Trees for Tucson also offers trees at no cost to schools and qualified community service organizations (such as Salvation Army, Primavera, and Habitat for Humanity) throughout the Tucson metro area, including tree planting demonstrations and slide shows on trees and related issues. Class projects involving tree planting in nearby neighborhoods can be coordinated through Trees for Tucson's shade tree program.

More information at: www.tucsonaz.gov/tcb/tft

Texas Trees Foundation (Dallas, TX)

In 2002 TXU provided \$140,000 in funding and 360 volunteers to create the nation's largest-known urban tree farm, operated by Texas Trees Foundation. The four-acre TXU Urban Tree Farm at Richland College features state-of-the-art production and irrigation technology with the capacity to produce 7,000 ten-gallon trees per planting season. Trees are offered to the public through the Trees For Texas program. In order to meet community needs and provide income to the foundation, in 2005 the Foundation opened a \$350,000 ten-acre Hamilton Park Tree Farm in a remote parking lot of Texas Instruments. The site is ideally suited for above-ground growing of the larger, twenty-gallon trees. It is covered with asphalt, drains well, is in close proximity to water, and is fenced and secure.

More information at: http://actrees.org/site/resources/events/operating_a_nursery_community_garden_or_arbor.php

Friends of Trees (Portland, OR)

Since 1996, Portland General Electric has provided significant financial and volunteer support to Friends of Trees, particularly in supporting planting projects in East Portland neighborhoods. PGE's sponsorship allows Friends of Trees to waive the \$35-75 per tree fee for residents in these neighborhoods where tree canopy coverage is the lowest. The subsidy covers the tree, hole-digging, stakes and ties, assistance on planting day, and a year of tree monitoring. On planting day, property owners and corporate volunteers come together to transform neighborhoods.

More information at: www.friendsoftrees.org

Baton Rouge Green (Baton Rouge, LA)

Entergy maintains an Environmental Stewardship Grant program that makes awards of \$5,000 to \$25,000. Selected programs include those with a mission or charter consistent with improving the environment, improving or addressing a significant environmental need in the region, show sustainable characteristics with measurable results demonstrating lasting effects in the environment, involve Entergy employees and community members, and contribute to energy efficiency, preservation of natural resources and wildlife, environmental education, or protection of public health.

More information at: www.batonrougegreen.com

Trees for Houston (Houston, TX)

Trees for Efficiency is a partnership between Trees for Houston and CenterPoint Energy to encourage energy efficiency through strategic landscaping. Trees must be planted on the west, east, or south side of the home, and the species available include Live Oak, Red Maple, and Magnolia. For only \$25, Trees for Houston will coordinate the efforts which include delivering and planting the tree, offering expert assistance selecting the placement that will provide with the most savings on your energy bill, and sharing expert advice on the care of your new tree. There is a limit of two per household. Through the partnership, Trees for Houston plants about 1,000 trees each year.

More information at: www.treesforhouston.org





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Pennsylvania Horticultural Society (Philadelphia, PA)

PECO and Exelon Company made a \$50,000/year (for three years) commitment to TreeVitalize as part of their climate protection strategy. What's more unique is that the project was not done through the traditional "community relations" avenue, but their Director of Climate Programs which is part of their Environmental Health and Safety Division. With a simple goal of buying the most trees for the money, the Pennsylvania Horticultural Society recommended directing the contribution to a riparian buffer project, because it used the smallest, least expensive trees. Another important aspect of the partnership is to boil the carbon offsets down to \$/ton of carbon. They assume that one tree will store about 1 ton of carbon over a 50-year period. So if a tree planting costs \$10/tree, then that carbon costs \$10/ton. If tree planting costs \$75/tree, then that carbon costs \$75/ton. With the market price for carbon storage at about \$5/ton on the Chicago Climate Exchange, planting trees is not cost competitive. So for planting trees is only cost competitive for carbon storage when either the cost of carbon increases or other non-immediate factors such as energy efficiency must be included.

Pacific Gas & Electric (Fresno, CA)

Pacific Gas & Electric (PG&E) began a Shade Tree Program in Fresno during 1991 and has developed a program for new customers who purchase energy efficient houses. The current program is delivered through the local nonprofit tree planting group, Tree Fresno. A \$10 rebate coupon is offered to customers who plant approved trees where they will shade residential buildings. About 70 percent of the single family homes in Fresno are air-conditioned. The 30-year net present value of PG&E sponsored yard tree plantings in Fresno is estimated to be \$22.3 million. More information at: www.ourcityforest.org/pge/2.html

San Diego Gas & Electric (San Diego, CA)

The Cool Communities Shade Tree (CCST) Program operated from 2002 to 2008 to help county homeowners conserve energy. In that time, it greatly exceeded goals by planting 36,000 trees and training 10,000 residents. At the program's end, huge demand outpaced the available staff resources and program funding, impeding CCSE's ability to accommodate all those interested in receiving trees. The trees were distributed to apartment buildings, public agencies, nonprofit agencies, and elementary, middle, and high schools. The program will result in an electric demand reduction of 2,957.66 kW and a total energy savings of 2,714,088 kWh per year on average over the next 20 years. The California Public Utilities Commission initially funded the program, which cost about \$300,000 a year. Now donors are being sought to pay for the trees, staff member and arborist, who trains people how to plant and care for the trees. Funds for the program had come from the "public purpose program charge" that many people pay for natural gas supplied by utilities such as San Diego Gas & Electric. Money from the charge, about \$1.65 per month on the typical homeowner's bill, goes toward improving energy efficiency. The California Public Utilities Commission used to decide which programs to fund. Responsibility shifted to the utilities in 2006, and SDG&E declined to renew funding for the shade-tree program because the utility was looking for more immediate energy-efficiency benefits- such as power-saving light bulbs- than trees provide. At that point, the Center for Sustainable Energy kept the program alive by using unspent money allocated before 2006, and by shifting funds from other center programs, but that money ran out in 2008. More information at: www.sdge.com/

Alaska Community Forestry (Anchorage, AK)

Since 2000, the Municipality of Anchorage, and Conoco Phillips have sponsored a tree adoption funded by Conoco Phillips. Each year, 1,000 trees are given to adoptive parents who apply in advance, agreeing to be good parents. An application appears in the newspaper and names are drawn and adoption announcements, noting the species they will receive, are sent to 1,000 lucky winners. The recipients come to the Conoco Phillips atrium on a May Saturday to pick up the tree or lilac, get information from arborists, and have a chance to ask questions.





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STATE/MUNICIPAL PROGRAMS

Delaware

In Delaware, municipalities are permitted to use their Department of Energy Stimulus funding for tree plantings. Also, the Delaware Green Energy Program provides cash incentives to Delaware citizens for the installation of Renewable Energy Systems.

More information at: www.dnrec.delaware.gov/energy/Pages/default.aspx

Sacramento, CA

Sacramento County has had on its books since 1982 a law stipulating that all new parking lots must meet a 50% shading requirement. This law results in the planting of trees which reduce the heat island effect.

Shreveport, LA

The City of Shreveport, the local utility, and Shreveport Green are working together to launch a program of planting trees that encourages energy savings as outlined in the city tree ordinance and Master Plan.

Los Angeles, CA

The city has a “Trees for a Green LA” program that offers trees through the Department of Water and Power.

New York, NY

The city permits a \$4.50/sq.ft. tax abatement for greenroofs.

Missouri

The state has legislated several energy tax incentives for homeowners to replace windows/doors/purchase energy-efficient appliances, etc. Trees is an eligible expense.





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INFORMATION RESOURCES

SMUD Tree Benefits Estimator

Developed by Sacramento Municipal Utility District (SMUD), the Tree Benefit Estimator is a web-based application designed to help APPA member utilities quantify and track the benefits of planting shade trees. It estimates the amount of energy savings (KWh saved), capacity savings (KW saved), and carbon and CO₂ sequestration (lbs) resulting from mature trees planted in urban and suburban settings. The Tree Benefits Estimator can be used by those who have no formal background in urban forestry or Demand Side Management (DSM) utility practices. This tool is especially important to local communities in understanding how they can control their environmental future and the cost of doing so. It is also important for utilities to be able to measure environmental impacts that in the future may be reported to state and federal governments on a voluntary or mandatory basis. Broad assumptions have been made regarding trees' impact on direct shading benefits, impacts of indirect or evapotranspiration effect, heating penalty in winter months, tree growth rates, and tree survival rates. As a result, this method may yield less precise results than a more tailored approach. Staff from the Center for Urban Forest Research, Pacific Southwest Research Station, USDA Forest Service, University of California, Davis, have reviewed the Tree Benefits Estimator.

More information at: <https://usage.smud.org/treebenefit/>

1990 Iowa Energy Efficiency Legislation (Senate File #2403)

This bill required all Iowa utilities to maintain a community tree program, whereby the utility can gain back the funds they spend on energy efficient programs. These energy programs include the rebates for energy efficient appliances, house weatherizing, and similar programs to encourage less energy use by the customer. In Iowa it is in the Demand Side Management of the budget for the utility company. Rural and city utilities do not have these same rules as investor owned utilities, but all do offer some type of energy efficient program and some offer tree programs. There have been some changes to that original legislation, and much of the teeth of the bill were gutted and the requirements for the utility companies softened. Check if your state has formed a commission to address global warming and if they are seeking legislative proposals. The Iowa model might be a good one for other states to consider.

More information at: www.actrees.org/files/Events/iowa_2403.pdf

Virginia Urban Forest Council (Charlottesville, VA)

The Virginia Department of Forestry has several informal partnerships with utility companies relating to the Municipal Tree Restoration Program (MTRP). With this program, municipalities have the local utility company remove and stump grind trees under power lines that have been topped for many years. Then, with a grant from the Urban & Community Forestry Program, the community replants new appropriate trees. There is a group of utilities that also get together to have a workshop relating to this issue on a semi-regular basis. In addition, the Northern Virginia Regional Park Authority has a very well developed easement and permitting program that considers tree preservation, restoration, and certification process for utility companies to work on some of their properties (most notably the W&OD National Recreation Trail).

More information at: www.treesvirginia.org





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STATE PUBLIC SERVICE COMMISSIONS

Most states have established a state public service commission by either constitution, election, or appointment by the governor or legislature. Traditionally, the public service commission's responsibility is the regulation of public utilities. They may have additional roles including: facilitating the incorporation of businesses and organizations, securities regulation, and railroad/pipeline safety. Public Service Commissions hold varying levels of power depending on the state, but they may be a good point of contact to implementing laws or policies that would encourage utility companies to plant trees. More information at:

Federal Communications Commission: www.fcc.gov/wcb/iatd/state_puc.html

Consumer Affairs: www.consumeraffairs.com/links/state_pucs.html

Alabama psc.state.al.us	Alaska state.ak.us/rca	Arizona cc.state.az.us	Arkansas state.ar.us/psc	California cpuc.ca.gov
Colorado dora.state.co.us/puc	Connecticut state.ct.us/dpuc	Delaware state.de.us/delpsc	District of Columbia dcpsc.org	Florida psc.state.fl.us
Georgia psc.state.ga.us	Hawaii state.hi.us/budget/puc	Idaho puc.state.id.us	Illinois icc.state.il.us	Indiana ai.org/iurc
Iowa state.ia.us/government	Kansas kcc.state.ks.us	Kentucky psc.state.ky.us	Louisiana lpsec.org	Maine janus.state.me.us
Maryland psc.state.md.us/psc	Massachusetts magnet.state.ma.us	Michigan cis.state.mi.us/mpsc	Minnesota state.mn.us/ebranch	Mississippi psc.state.ms.us
Missouri ecodev.state.mo.us/psc	Montana psc.state.mt.us	Nebraska nol.org/home/npsc	Nevada puc.state.nv.us	New Hampshire puc.state.nh.us
New Jersey bpu.state.nj.us	New Mexico nmprc.state.nm.us	New York dps.state.ny.us	North Carolina ncuc.commerce	North Dakota psc.state.nd.us
Ohio puc.state.oh.us	Oklahoma occ.state.ok.us	Oregon puc.state.or.us	Pennsylvania puc.paonline.com	Rhode Island ripuc.org
South Carolina psc.state.sc.us	Tennessee state.tn.us/tra	Texas puc.state.tx.us	Utah psc.state.ut.us	Vermont state.vt.us/psb
Virginia state.va.us/scc	Washington wutc.wa.gov	West Virginia psc.state.wv.us	Wisconsin psc.state.wi.us	Wyoming psc.state.wy.us

