

Placement: Environment | Trees

PLANTING A TREE IS ONE OF THE MOST IMPORTANT THINGS YOU CAN DO TO IMPROVE THE ENVIRONMENT AROUND YOUR HOME

If you live in one of Canada's newest neighbourhoods, especially one built in the past decade, you know how bare it looks without trees. Compare your block to an older residential section with mature trees growing in it, and you can see the aesthetic impact they have on the surroundings. Beyond simple beauty, trees and other landscape plants improve the environment in ways you can actually feel, and feel good about.

Trees absorb significant amounts of carbon dioxide from the atmosphere and release fresh oxygen through respiration. They intercept certain particulate matter, odours, and potentially harmful chemicals that pollute the air, serving as nature's lungs for improved urban air quality. Take a deep breath and thank a tree.

Increases in carbon dioxide (CO₂) levels in the Earth's atmosphere are indicators of global warming. Trees are crucial to sequestration, in other words, the removal of carbon from the air, and play an important role in the mitigation of the carbon footprint created by people, companies and the production of products. Planting a tree helps reduce your own carbon footprint.

Abrasive or annoying sounds can provoke psychological stress in people. Trees reduce the amount of local noise pollution, add privacy and improve the quality of life for you and your neighbours.

Temperature extremes increase home energy consumption. Properly positioned around your home, trees help reduce the cost of air conditioning by providing shade from the sun when temperatures are high. In the winter, acting as windbreaks, trees create a barrier between the building and cold, moving air helping to reduce heating costs. Trees help to reduce daily wear on building exteriors by providing protection from wind, moisture and ultraviolet rays. Feel more comfortable, and be more comfortable that you've saved on energy and maintenance costs.

Plants Love You™ and show it by improving the environment. In most Canadian towns and cities the tree canopy, the percentage of tree coverage compared to all other spaces, is well below sustainable levels. Help grow the tree canopy by planting a tree and improving your home and community's environment.

Resources:

Bolund, P. and S. Hunhammer. 1999. Ecosystem services in urban areas. *Ecological Economics* 29:293-301.

Bowler, D. E., Buyung-Ali, T. M. Knight, and A. S. Pullin. 2010. Urban greening to cool towns and cities: a systematic review of the empirical evidence. *Landscape and urban planning* 97: 147-155.

Bonan, G. B. 2008. Forests and climate change: Forcings, feedbacks, and the climate benefits of forests. *Science* 320: 1444-1449.

Brethour, C., G. Watson, B. Sparling, D. Bucknell, and T.-L. Moore. 2007. Literature review of documented health and environmental benefits derived from ornamental horticulture products. Agriculture and Agri-Food Canada, Markets and Trade, Ottawa, ON.

Georgi, N. and K. Zafiriadis. 2006 The impact of park trees on microclimate in urban areas. *Urban Ecosystems* 9:195-209.

Gómez-Muñoz, V. M., M. A. Port-Gándara, and J. L. Fernández. 2010. Effect of tree shades in urban planning in hot, arid climatic regions. *Landscape and Urban Planning* 94(4): 149-157.

Maco, S. E. and E. G. McPherson. 2003. A practical approach to assessing structure, function and value of street tree population in small communities. *J. Arboriculture* 29: 84-97.

McPherson, E. G. 1992. Environmental benefits and costs of the urban forest. *Proceedings of the Fifth National Urban Forest Conference*, p. 52-54.

McPherson, E. G., L. P. Herrington, and G. M. Heisler. 1998. Impacts of vegetation on residential heating and cooling. *Energy and Buildings* 12: 41-51.

McPherson, E. G., and J. R. Simpson. 2002. A comparison of municipal forest benefits and costs in Modesto and Santa Monica, California, USA. *Urban Forestry and Urban Greening* 1: 61-74

McPherson, E. G., J. R. Simpson, and K. I. Scott. 1996. "Bact" analysis: Are there cost effective air quality benefits from trees? *Ninth Joint Conference on Applications of Air Pollution Meteorology with A&WMA*, p. 355-359.

McPherson, E. G., J. R. Simpson, P. J. Peper, S. E. Maco, and Q. F. Xiao. 2005. Municipal forest benefits and costs in five US cities. *J. Forestry* 103: 411-416.

Newell, R. G., and R. N. Stavins. 2000. Climate change and forest sinks: Factors affecting the costs of carbon sequestration. *J. Environ. Econ. Mgmt.* 40: 211-235.

Nowak, D. J., D. E. Crane. 2002. Carbon storage and sequestration by urban trees in USA. *Environmental Pollution* 116: 381-389.

- Simpson J. R., and E. G. McPherson. 1998. Simulation of tree shade impacts on residential energy use for space conditioning in Sacramento. *Atmospheric Environment* 32: 69-74.
- Spronken-Smith, R. A., and T. R. Oke. 1999. Scale modeling of nocturnal cooling in urban parks. *Boundary Layer meteorology* 93: 287-312.
- Werner, J. E. B., J. Raser, T. J. Chandler, and M. O’Gorman. 1996. A study of the economic impacts of trees and forests in the commercial districts of New York City and New Jersey. New York Street Tree Consortium Inc.
- Yang, D. S., S. V. Pennisi, K.-C. Son and S. J. Kays. 2009. Screening indoor plants for volatile organic pollutant removal efficiency. *HortScience* 44: 1377-1381.
- Yang, J., L. Zhao, J. McBride, and P. Gong. 2009. Can you see green? Assessing the visibility of urban forests in cities. *Landscape and urban planning* 91: 97-104.
- Younis, A., M. Qasim, and A. Riaz. 2008. Case study: Impact of a well planned landscape in delivering quality of life to city dwellers. *Acta Horti*: 147-154.
- Charles R. Hall, Madeline W. Dickson. 2011. Economic, Environmental, and Health/Well-Being Benefits Associated with Green Industry Products and Services: A Review.