



Why Urban Trees Are So Important

Trees reduce energy demand

By shading structures

Properly placed large trees block the direct, radiant heat from the sun. Interiors therefore remain cooler, so the need to operate air conditioners is reduced.

By mitigating the heat island effect

Trees that shade asphalt and concrete prevent them from absorbing heat. In the summer, once the sun sets, pavements release absorbed heat and warm the surrounding area. This "heat island" effect increases the need to run air-cooling systems.

By acting as windbreaks

Winter winds carry away heat from the interiors of buildings through windows and gaps in insulation. Trees planted to block these winds help lower heating bills.

By cooling the ambient air

At certain temperature and humidity levels, tree leaves absorb heat as part of photosynthesis, cooling the surrounding air.

Trees increase property values

Studies have documented that large, mature trees increase property values for homeowners. Their aesthetic appeal and the fact that they can reduce energy usage are both excellent selling points.

Trees improve air quality

By reducing electricity demands

Since properly placed and cared for urban trees keep structures relatively cool, they lower the demand for electricity to run air conditioners. Reduced demand equals reduced emissions and improved air quality.

By absorbing carbon dioxide and releasing oxygen

Trees release oxygen and absorb carbon dioxide (CO₂) during photosynthesis. CO₂ is a harmful gas primarily created when fossil fuels are burned (although it is also released when plants decompose) and has been linked to global climate change. Since trees store carbon in their rigid, woody tissues, it cannot re-enter the atmosphere until the tree dies and begins to decompose.



By helping filter particulate matter out of the air

Urban trees catch and hold airborne particulate matter (PM) on their leaves, trunks and branches. Inhaling airborne PM such as dust, soot and even latex particles from the degradation of vehicle tires has been linked to asthma and other lung maladies.

By helping prevent the formation of ground level ozone and smog

Ground level ozone, a powerful lung irritant, is created when sunlight heats the combination of volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) in the air. VOCs are created by the evaporation of many substances, including gasoline. NO_x are created when fossil fuels are burned. Smog results when ground level ozone is combined with PM. Since trees help remove particulates from the air and help cool a given area, they help prevent the formation of both ground level ozone and smog.

Trees help manage storm water

By slowing runoff

Trees catch and hold rain on their leaves and within the furrows of their bark and release it slowly, allowing rain time to soak into the soil. Slower runoff helps storm sewers convey rainfall to streams and rivers without flooding and minimizes soil erosion.

By absorbing rainfall

A single tree can absorb hundreds of gallons of water each year. Properly placed, trees can play a significant role in storm water management systems.



And much more

Trees provide wildlife habitat and contribute to biodiversity. They reduce noise and can screen unsightly views. They help asphalt pavement last longer by blocking the direct sunlight that volatilizes the oil that binds the gravel and allows the pavement to break down more readily from the wear of vehicular traffic. They keep vehicles cool in parking lots, reducing the amount of gasoline that evaporates from the fuel tank (saving the vehicle owner money and lowering overall VOC emissions), and keep the interior of the vehicle cooler. And studies have indicated that the presence of trees can cause more people to visit a shopping center and spend more, reduce crime, lower the incidence of domestic violence and even decrease recovery times for hospital patients.



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