



# Frequently Asked Questions

*Trees and the Energy Crisis*

**Q: How can trees be a part of the solution when they take so long to grow and the energy crisis is NOW?**

A: It's true that energy savings from newly planted trees is minimal. However, in five years a tree on the west side of a home in the Central Valley of California will reduce annual and peak cooling demand by about 3%, and by nearly 12% in 15 years. In older neighborhoods, where homes are less energy efficient, increasing the life of existing shade trees can provide immediate benefits. A shade tree program that produces long-term benefits, adds diversity to a portfolio of investment in energy conservation.

**Q: Won't all of these newly planted trees eventually break sidewalks, driveways and other concrete?**

A: If planning is not a part of planting, new trees have the potential to conflict with sidewalks, driveways, power lines, street lights, and other infrastructure elements. Properly planned plantings will avoid these potential conflicts. Trees planted in lawns are the least likely to cause problems if they are sited at least six feet away from concrete surfaces. Also, consider planting street trees in larger planting areas or non-traditional planting locations to avoid conflicts with concrete.

**Q: Won't all of these new trees become safety hazards -- falling limbs, trees falling, or fruit and wet leaves on pavement?**

A: A tree management program, consisting of annual inspections and treatment, can eliminate most accidents caused by tree failures. A tree is considered a safety hazard only if it is structurally unsound and has a possible target. Trees become unsound due to weak structures, decay of trunk and branches, cankers and rots, and root loss or root decay. Fruit and leaves that drop can cause personal injury. A program that incorporates timely inspections along with pruning and other maintenance can correct most problems before they occur. Complete safety could not be achieved without removing most trees. The goal is to balance an acceptable level of safety at a reasonable cost with a minimum number of tree failures.

**Q: Don't trees emit smog producing chemicals?**

A: Most trees emit various biogenic volatile organic compounds (BVOCs) such as isoprenes and monoterpenes that can contribute to ozone formation. The ozone-forming potential of different tree species varies considerably. A study of the Los Angeles basin found that increased tree planting of low BVOC-emitting tree species would reduce ozone concentrations and exposure to ozone. However, planting of medium and high emitters would increase overall ozone concentrations. The extent to which BVOC emissions from trees influence smog in other parts of California needs more research.

**Q: If we plant thousands of trees to shade homes, won't they use too much water?**

A: Adding more trees will require more water. However, in most landscapes, trees require relatively little supplemental irrigation after establishment because they are planted in irrigated areas and use existing sources of water. Mature trees may use 800 gallons per year, but most do not require supplemental water. Newly planted, 15-gallon trees, typically require 100-200 gallons/year of supplemental water during the establishment period, at a cost of less than \$1 per tree.

**Q: Won't a lot of new trees shade solar collectors?**

A: Trees planted to the south of solar collectors can cause problems if they grow into the path of the sun and shade the collectors. To avoid this problem, properly position new trees so that the mature canopy will not conflict with solar panels. Consult your landscape professional to determine how large your chosen tree(s) will get, and then plan your planting site accordingly. Use the following rule of thumb for distance/tree height: "At noon on December 21, the shadow length is about 2 times tree height. The shadow length increases to 5 times tree height at 9 a.m. and 3 p.m."

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