Tree Benefit Report

This data was produced from the i-Tree Planting Calculator version 1.1.3 for Claremont, CA. It shows the total projected benefit over the next 25 years. The report was put together by Sustainability Claremont and HMC summer research students on : **2018/07/24.**

# CO2 Benefits

Trees can have an impact by reducing atmospheric carbon in two primary ways:

**1) Avoiding CO2**: Trees near buildings can reduce heating and air conditioning demands, thereby reducing CO2 emissions associated with power production.  
 **2) Sequestering CO2**: They sequester (lock up) CO2 in their roots, trunks, stems, and leaves while they grow, and in wood products after they are harvested.

* With your trees, you will avoid -6619.0 pounds of CO2. This is equivalent to avoiding $-117.09 of CO2.
* Your trees will sequester 449005.6 pounds of CO2. This is equivalent to sequestering $7942.85 of CO2.
* In total, you will save $7825.76 by reducing 442386.6 of atmospheric carbon dioxide through CO2 sequestration and decreased energy production needs and emissions.

# Energy Benefits

Trees modify climate and conserve building energy use in three principal ways:

**1) Shading:** Reduces the amount of heat absorbed and stored by buildings  
 **2) Reducing air temperatures**: Through evapotranspiration of moisture by foliage.

**3) Slowing down winds:** Reduces the amount of heat lost from a home.

* With your trees, you will save 69824.2 kWh of electricity. Your electricity energy savings are $10790.21.
* With your trees, you will save -429.2 MMBtu of fuel. Your fuel savings are $-4889.54.

# Ecosystem Services

Trees act as mini-reservoirs, controlling runoff at the source. Trees reduce runoff by:

**1) Rainwater**: Trees intercept and hold rain on leaves, branches, and bark. They also increase infiltration and storage of rainwater through the tree’s root system.

**2) Reducing soil erosion:** Trees slow rainfall before it strikes the soil.

* Your trees produce 98.9 short tons of biomass.
* Your trees intercept 494689.3 gallons of rainwater.
* Your trees manage $1206.9 worth of 135059.0 gallons of stormwater.

# Air Benefits

Urban forest can mitigate the health effects of pollution by:

**1) Absorbing pollutants:** Ozone (O3), nitrogen dioxide (NO2), sulfur dioxide (SO2).

**2) Intercepting particulate matter:** < 10 microns (PM10) like dust, ash, and smoke.

**3) Releasing oxygen**: Through photosynthesis.

* Your trees remove 1005.3 pounds of O3, 243.4 pounds of NO2, 70.5 pounds of SO2, and 21.5 pounds of PM2.5.
* Your trees avoid -0.5 pounds of NO2, -1.5 pounds of SO2, 32.8 pounds of VOC, and 22.3 pounds of PM2.5.