**Safe Healthy Playing Fields Coalition Fact Sheet**

# How synthetic turf surfaces contribute to climate change

## Each synthetic turf surface:

1. **Creates "heat island" effect:** Synthetic turf and surfaces undesirably absorb, retain and emanate heat at temperatures and rates that are harmful to the environment.

2. **Generates carbon dioxide et al**: The manufacturing, installation, service and disposal of a 2-acre artificial turf field facility are responsible for the generation of a total of 55.6 tons of carbon dioxide, in addition to other greenhouse gases and pollutants.

3. **Increases carbon footprint:** Removes natural grass surfaces which eliminate the ability of that surface to reduce carbon dioxide by converting it into oxygen.

4. **Contributes hydro carbon off gassing that puts bad stuff in our lungs**: The thermodynamics of the turf in winter and summer conditions accelerates the breakdown of the synthetic grass fibers and rubber crumb into dust particles, which easily can be inhaled or ingested by children. Artificial turf releases more greenhouse gases in its production, transportation and processing than the maintenance of natural turf ever could.

5. **Increases reliance on dirty fossil fuels**: The production process for artificial turf is for the most part fueled by fossil fuels, as is its installation, after-sale maintenance and eventual disposal protocols.

6. **Makes a hazardous waste cocktail:** Hazardous materials include ingredients in the polyethylene/polypropylene blades, the crumb rubber infill, and ingredients in maintenance products like disinfectants, anti-static cling treatments, and solvents for seam repair. Recycled crumb rubber contains a number of chemicals that are known or suspected to cause adverse health effects. The most common types of synthetic rubber used in tires are composed of ethylene-propylene and styrene-butadiene combined with vulcanizing agents, fillers, plasticizers, and antioxidants in different quantities, depending on the manufacturer. Tire rubber contains metals (zinc, selenium, lead, and cadmium), phthalates, polyaromatic hydrocarbons (PAHs), and volatile organic compounds (VOCs).

7. **Degrades water quality:** Increases stormwater runoff while degrading the quality of the water entering our storm drains and streams. Synthetic surface pollutant runoff in the form of rubber granules directly into storm and sewer drains, rivers and other bodies of water, and as seepage (as leachate) into ground and/or ground water and wells. Natural grass absorbs carbon dioxide, produces a cooling effect, and filters rain & storm water.

8. **Ends up in a landfill**: One artificial turf field contains approximately 120 tons of crumb rubber or 26,000 recycled tires. Typically, when a synthetic field is replaced, the old field is sent to a landfill. There are no real disposal issues with grass fields.