

The CAREless Carpet Industry:

A critique of the California carpet stewardship program's reliance on incineration

A Report by the Global Alliance for Incinerator Alternatives and Changing Markets- April 2017

Executive Summary

Carpet- A Vast Source of Plastic Waste. The planet is literally carpeted with carpet waste and it's mostly (99%) plastic. In 2014, the U.S. carpet industry produced 11.7 billion square feet of carpet, 45% of the total global production. Most carpet ends up in landfills and incinerators ("incineration" defined here, as in state law, as a form of transformation that combusts waste - it may or may not include energy recovery). Less than 5% of U.S. carpet waste is recycled and only 1% is recycled back into carpet, 89% is landfilled and about 6% is treated in some form of incinerator. In California, carpet is one of the top ten biggest products in landfill waste.

California's Carpet Stewardship Law- First of its Kind. In response, the California Legislature enacted AB 2398 (Perez) in 2010 - the Carpet Stewardship Act - the first and only law in the U.S. that placed responsibility for establishing a recycling infrastructure on carpet producers. The law established a producer-implemented / consumer-funded program to help alleviate the landfill burden and promote a circular economy of carpet waste being reduced (through reuse and optimization) and recycled.

CARE's Stewardship Program- Heavy on Incineration, Meager Recycling. Under the direction of the industry association, Carpet America Recovery Effort (CARE), California's carpet stewardship program in its first five years failed to meet the industry-established goal of 16% recycling. Instead, it moved the recycling rate in California from 8% to 10%. The 2% recycling increase was outpaced by the 5% increase in carpet waste incineration. CARE's program relies heavily on burning up valuable resources via incineration. In the recently revised five-year strategy, CARE projected carpet incineration would vastly outpace the quantity recycled. The CARE goal for recycling is 26% of discards by 2021. In comparison, the incineration rate would reach 34% through a combination of incineration types: Waste to Energy (WTE) and Carpet as Alternative Fuel-(CAAF) to burn in cement kilns and other facilities.

"Incineration" is a term that has been battered by many, especially those who believe that energy recovery from a facility that burns solid waste is a good thing and choose to consider "waste-to-energy" as something somehow better than incineration on the solid waste management hierarchy. California law and common sense make no such distinction. Incineration is included in the definition of "transformation" which means converting or combusting solid waste. WTE, CAAF, and Kiln as they all transform waste using some form of thermal treatment.

CalRecycle Should Send a Clear Regulatory Signal that Discourages Incineration. Allowing the carpet stewardship program to rely heavily on incineration contravenes the hierarchy of waste management set forth in Section 40051 of the California Public Resources Code that requires state and local government to "maximize use of all feasible source reduction, recycling, and composting options in order to reduce the amount of solid waste that must be disposed of by transformation and land disposal." A "transformation facility" is defined as, "a facility whose principal function is to convert, combust, or otherwise process solid waste by incineration, pyrolysis, destructive distillation, or gasification..." WTE incineration is considered a form of transformation according to CalRecycle. To date, state regulators have not made it clear to the industry that incineration is on par with landfill as a last resort and that all feasible source reduction and recycling options must be exhausted prior to getting approval for burning carpet.

Recycling and Reuse are Better Economic Choices. Recycling creates 10-20 times as many jobs as incineration, while reuse creates anywhere from 28 - 300 times the jobs. Meanwhile, WTE incineration is the most expensive form of energy generation in the U.S. per unit of energy produced. Compared to renewables, coal, and nuclear, WTE has the highest capital costs, the highest operation and maintenance costs, and has the lowest capacity for energy output. The costs of building WTE incinerators are 60% higher than nuclear power and the operating costs are ten times higher than coal. The costs are typically borne by taxpayers who foot the bill via waste disposal fees and the debt service payments for construction costs. Numerous examples exist of incinerators that cost communities hundreds of millions in operations and upgrades, contributing to municipal bankruptcy in Harrisburg, Pennsylvania and Detroit, Michigan. In California, the Long Beach mass burn WTE incinerator is facing a shortfall in revenue to pay for rising operating costs. As a consequence, city officials have complained that carpet recycling directs solid waste away from transformation facilities- exhibiting a common problem with costly WTE facilities- the need to feed them.

Environmental Justice and Poor Regulation of Air Emissions. In California, as in many other states, incinerators are sited in low income communities and present environmental justice challenges. Carpets are mixed with a wide array of waste streams when burned in mass burn incinerators. These facilities typically release persistent organic pollutants, endocrine disruptors, and other hazardous chemicals such as dioxin, mercury and lead. Many carpets contain polyvinyl chloride (PVC) which creates dioxin when burned. Dioxin is among the most dangerous chemicals known and a proven carcinogen. Of particular concern are the ultra-fine particulates and nanoparticle emissions, which are **not regulated and go unmonitored** but pose significant health threats. There is a lack of continuous monitoring for dioxins and a variety of metals, which are usually monitored only once per year. They are usually not monitored during startup and shutdown when emissions are generally highest. Cement kilns that burn waste (including carpets) in the U.S. likely result in worse emissions than typical WTE treatment as they are not subject to the same monitoring and regulations.

Waste incinerators emit more uncontrolled pollution than coal fired power plants per unit of energy. To make the same amount of energy as a coal power plant, mass burn incinerators release: 28 times as much dioxin, 2.5 times as much carbon monoxide, three times as much nitrogen oxides (NOx), 6-14 times as much mercury, nearly six times as much lead, and 70% more sulfur dioxides. Trash incineration releases 2.5 times as much CO₂ than coal per unit of energy produced and WTE incineration of carpets creates a significant climate risk. CalRecycle found that burning of carpet waste poses far more climate risk than recycling. Net carpet recycling emissions save about 32,000 metric tons of CO₂, while WTE incineration alone adds approximately 24,000 metric tons.

Change Needed in California's Stewardship Program. The dismal results of the CARE program result mainly from the originating law that allowed consumer fees to fund the program. It also erred in selecting a stewardship organization (CARE), which is controlled by industry giants, Shaw and Mohawk, who want to continue business as usual. The \$27 million in collected fees means that the industry has no financial "skin in the game." CARE has implemented a program that fails to (1) properly incentivize recycling and the use of recycled content, (2) provide adequate subsidies for collection and recycling, and (3) implement the necessary industry and consumer education to support a serious carpet recycling program in California. In the short term, CalRecycle should reject CARE as the stewardship organization and prohibit the sale of carpet in California by retailers and manufacturers that are not covered by a stewardship program. A strong law would require industry to spend its own money to achieve these targets and would prevent noncomplying companies from selling carpet in California. This type of program would create sufficient financial incentives to achieve the state's goals.

