



BACKGROUND

ALTERNATIVE FUELS

Cement Manufacturing and Alternative Fuels: An alternative fuel policy provides many benefits to our economy, environment, public health, and energy security. Secondary materials like post-industrial, post-commercial, post-consumer paper, plastic, and other materials have tremendous energy value. Their use as fuels helps to reduce industrial emissions of greenhouse gases (GHG) and other emissions, limit landfill disposal of materials that can become public health vectors and safety risks, conserve natural resources, and provide low-cost, sustainable fuels.

The cement industry has a long history of safe and efficient use of alternative fuels, ranging from used tires and biomass to a wide variety of secondary and waste materials. Cement kilns heat limestone and other raw materials to over 2,700 degrees Fahrenheit during the cement manufacturing process. The high operating temperature and long residence times make cement kilns extremely efficient at combusting any fuel source with high heating value while maintaining emissions at or below the levels from traditional fossil fuels. The final product, cement, is the main component in concrete, a critical component of roads, buildings, water projects, and other forms of resilient infrastructure that are desperately needed at this time. For the cement industry, secondary materials that would otherwise have little market value are valuable commodities, offering a cost-effective and environmentally sustainable alternative to traditional fossil fuels.

Regulations Governing Use of Alternative Fuels: The industry's use of alternative fuels falls under two environmental laws administered by the U.S. Environmental Protection Agency (EPA), the Clean Air Act (CAA), and the Resource Conservation and Recovery Act (RCRA). The CAA addresses ambient air quality and emissions from manufacturers, power plants, and motor vehicles. RCRA governs management of solid waste and the generation, transport, and disposal of hazardous materials.

STATUS

Congressional Overview: Currently, there is no legislation addressing the use of alternative fuels for manufacturing.

Regulatory Overview: The cement industry is constrained by legal barriers through RCRA, the CAA, and the EPA regulating the use of non-hazardous secondary materials and wastes as fuels. In 2007, the DC Circuit Court of Appeals found that facilities combusting solid waste for energy recovery must be regulated as solid waste incinerators. In response, the EPA issued regulations called Non-Hazardous Secondary Materials (NHSM) Rule in 2011 allowing for secondary materials to be used for energy recovery if they met specific legitimacy criteria.

These legal barriers prevent significant amounts of landfilled materials such as plastics, paper, fabrics/fibers, and other secondary materials from being used as fuels, despite their demonstrably lower greenhouse gas and other air emissions. Today, alternative fuels make up only about 15 percent of the fuel used by domestic manufacturers, compared to more than 36 percent in the European Union, including as high as 60 percent in Germany.

CONTACT INFORMATION

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ACTION REQUESTED

ALTERNATIVE FUELS

A Path Forward for Alternative Fuels: Reducing these legal barriers presents a tremendous opportunity to:

- beneficially reuse landfilled materials for energy recovery,
- reduce reliance on traditional fossil fuels
- benefit the environment and public health through lower GHG and air emissions, and
- decrease public health and vector risks.

The cement industry can beneficially reuse the millions of tons of plastics and other landfilled materials for energy recovery. The cement industry's use of scrap tires provides an illustrative example for beneficially reusing materials traditionally landfilled as fuels. EPA lowered regulatory barriers to using scrap tires as fuel helping the industry to increase its use of tire derived fuel (TDF) from 40 million tires in 2011 to 60 million tires in 2017. TDF serves as excellent fuel for cement kilns as they have high heating value and have demonstrated lower GHG, nitrogen oxide (NO_x), sulfur dioxide (SO₂), and particulate matter (PM) emissions than traditional fossil fuels. There is a similar opportunity to reuse the millions of tons of plastics discarded into landfills, including the marine debris plastics that could further reduce GHG and other air emissions, promote energy security, and ensure cleaner waters.

Plastics that are placed in blue bins for recycling are deemed discarded under RCRA and cement plants must comply with onerous processing and permitting requirements to use as fuels. PCA submitted a rulemaking petition to EPA in April seeking categorical non-waste determinations for plastics, paper, and fabrics/fibers, under the NHSM Rule that would help the cement industry to use them as fuels. Over the past several years, PCA has engaged EPA educating them on this topic.

Legislative Advocacy Priorities: To increase the cement industry's use of alternative fuels, the industry will require help from Congress to:

- Amend the definitions of "Recovered Materials" and "Recovered Resources" within RCRA so they are not deemed solid waste.
- Urge EPA to revise the NHSM Rule to ease processing requirements for discarded materials and the regulatory definition of "discard" to allow for use of recycled materials as fuel.

Through the increased use of alternative fuels, the cement industry can further reduce its GHG and other air emissions while providing a solution to the national waste problem.

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