

A WORLD WITHOUT WASTE



A Moonshot: Path To A World Without Waste

When President Kennedy declared that America would put a person on the moon within a decade, he wasn't just setting an ambitious goal—he was establishing a moonshot that would transform technology and society. Today, we need a similar moonshot for waste management: the complete elimination of landfills and incineration. With technologies like Regenerative Robust Gasification (RRG), this goal is increasingly within reach, promising profound benefits for both environmental sustainability and social justice.

Our reliance on landfills and incineration carries hidden costs that extend far beyond operational expenses. Environmentally, landfills release methane—a greenhouse gas 82 times more potent than carbon dioxide—while contaminating valuable land and potentially groundwater. Incineration, while reducing waste volume, emits toxic pollutants and greenhouse gases. Together, these disposal methods represent a significant contributor to climate change and environmental degradation.

Perhaps more troubling is who bears these environmental burdens. Landfills and incinerators are disproportionately located in low-income communities creating environmental justice concerns that have persisted for decades. These communities suffer higher rates of respiratory illness, odor, reduced property values, and decreased quality of life due to proximity to waste disposal facilities.

RRG: Technology for Environmental Protection and Social Justice

Regenerative Robust Gasification offers a promising alternative that addresses both environmental and social concerns. Unlike traditional waste management methods, RRG transforms mixed waste streams into valuable resources without smokestacks and harmful emissions associated with incineration. It doesn't require vast land areas that could otherwise serve communities or natural ecosystems. By converting waste into useful materials such as virgin plastics, RRG creates a truly circular system that minimizes environmental impact.

By eliminating the need for landfills and incinerators, we can begin to address longstanding environmental issues and injustices. All would benefit from cleaner air, reducing impact on global warming and the nearby marginalized communities that have historically borne the burden of our waste system. RRG technology would reinvent landfills and reclaim land currently dedicated to waste disposal.

The Path to a Zero-Waste Future

Eliminating landfills and incineration is undoubtedly ambitious—but so was landing on the moon. A moonshot approach would require a comprehensive policy framework that progressively phases out landfilling and incineration while incentivizing alternatives like RRG. This could include steadily increasing landfill taxes, extended producer responsibility regulations, carbon pricing that reflects the true environmental cost of waste disposal, and investment in complementary recycling technologies.

Technological innovation will be key to this transition and pilot line demonstration already exists. RRG technology continues to advance, becoming more efficient and scalable. With dedicated research and development funding, we could accelerate these improvements and develop complementary technologies that make a zero-landfill, zero-incineration future possible.

Economic Sustainability

A key difference between this moonshot and the Apollo program is economic sustainability. While the moon landing required massive government expenditure, eliminating landfills and incineration could be economically self-sustaining. RRG facilities produce valuable outputs such as virgin recyclable materials. Reduced environmental and health costs create significant societal savings. New green jobs emerge in technology development, facility operation, and material recovery. Reclaimed land can be repurposed for productive community use.

This moonshot isn't merely aspirational—it's necessary for a sustainable and just future. By focusing on robust technologies like RRG as the cornerstone of a comprehensive waste management approach, we can capture materials that burden the consumer, accept contaminated waste incapable of being processed in the current recycling eco system that get into landfills and incinerators. This would address longstanding environmental justice concerns, and create new economic opportunities in a circular economy.

Beyond environmental and economic considerations, eliminating landfills and incineration represents a moral imperative. Future generations deserve both a healthy planet and equitable communities. By pursuing this moonshot with the same determination that took us to the lunar surface, we can transform our relationship with waste and planet earth from a system that promotes sustainability and equity for all.

What role do you see robust technologies like RRG playing in eliminating landfills and incineration? Share your thoughts in the comments below.



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