

Toward a New Waste Management Model

Transforming Waste Infrastructure: A Scalable Solution for National Wellbeing, Ecological Health, and Economic Resilience

Regenerative Infrastructure

Ecological Health

Economic Resilience

Public Health

Overview and Purpose

This proposal presents a strategic vision and operational framework for addressing the United States' waste crisis through scalable, high-efficiency waste processing infrastructure. Utilizing technology such as Eden Energy's advanced systems, we explore how a \$200 billion investment could fully process the nation's waste while generating profound benefits for public health, ecological regeneration, economic efficiency, and systemic resilience.

The goal of this document is to demonstrate that comprehensive waste infrastructure is not only technologically feasible but also economically justifiable and socially imperative. By drawing on existing capabilities and clear data, we aim to catalyze national action and policy alignment around a regenerative waste strategy.

The Problem: The Cost of Waste Mismanagement

Volume

The average American generates 4.9 pounds of waste per day. With a population of approximately 350 million, the U.S. produces roughly 1 million tons of waste per day.

Health Impacts

Landfills and incinerators emit pollutants linked to respiratory illness, cancer, neurological damage, and endocrine disruption. Communities—especially low-income ones—near waste sites face disproportionate health risks.

Ecological Degradation

Mismanaged waste leads to soil, water, and air pollution; oceanic plastic gyres; and biodiversity loss. Methane emissions from landfills are a major contributor to climate change.

Economic Costs

The U.S. spends tens of billions annually on collection, landfill management, and environmental remediation. These costs are compounded by lost resource value from recyclable or compostable materials.

Feedback Failures

Our current waste systems lack feedback loops for accountability, citizen participation, and ecological metrics—further disconnecting people from the impacts of their consumption.

Operational Plan: A Scalable National System

Technology Reference: Eden Energy Waste-to-Energy System

<https://edenenergy.co/genesis>

Daily processing capacity per facility:

5,000 tons

Facility cost:

\$1 billion

National Scaling Requirement

Total U.S. daily waste:

~1,000,000 tons

Number of systems needed:

$1,000,000 / 5,000 = 200$ systems

Total infrastructure cost:

200 x \$1B = \$200 billion

Implementation Notes

Geographic distribution

Facilities can be distributed regionally to minimize transportation emissions and stimulate local economies.

Modular deployment

Phased rollout over 5–10 years with priority to high-impact zones.

Public-private partnership model

Government financing combined with industrial partnership and utility-grade oversight.

Integration with circular economy

Systems should include material recovery, nutrient cycling (compost, biochar), and energy feedback into the grid.

Net Positive Outcomes

Public Health Improvement

Drastic reduction in toxic emissions, especially in vulnerable communities

Climate Action

Lower methane emissions and conversion of waste into renewable energy or inert byproducts

Economic Efficiency

Long-term cost savings vs. landfill operations; energy and material recovery offsets

Job Creation

Tens of thousands of high-quality jobs in construction, operations, and maintenance

Ecological Regeneration

Cleaner water systems, soil remediation, and reduced plastic leakage

Systemic Feedback

Real-time data on consumption and material flow informs better governance and citizen education



National Security

Domestic resource recovery reduces reliance on global extraction and supply chains

Conclusion

The transformation of waste infrastructure represents one of the most direct, actionable pathways to improving national wellbeing, regenerating ecosystems, and unlocking economic resilience. A \$200 billion investment—less than one year of military spending—could catalyze this transition and signal a new era of public infrastructure designed not only to manage waste, but to restore health and harmony between people and planet.

This proposal is intended to inspire alignment across policy makers, engineers, investors, and community leaders to prioritize this critical and attainable shift.