

The Aries Biosolids Processing Facility will incorporate the idea of upcycling to solve the human waste dilemma. Gasification disrupts the traditional methods of municipal biosolids disposal by eliminating the need to landfill or incinerate. Instead, the organic material in biosolids is transformed into valuable end products, thereby converting a linear process into a vital step of the circular economy. Our long term, cost-effective biosolids management solution protects clean water resources, reduces environmental impact, and generates renewable energy, thereby mitigating climate change while also meeting the primary objective of Kearny to sustainably manage its biosolids.



SUSTAINABLE BIOSOLIDS PROCESSING TECHNOLOGY

-  *Creates local, high-paying clean tech jobs*
-  *Generates renewable thermal energy*
-  *Protects clean water*
-  *Eliminate landfilling, and incineration of biosolids*
-  *Reduces long distance truck traffic and related emissions*
-  *Net-negative facility for greenhouse gases (GHGs)*

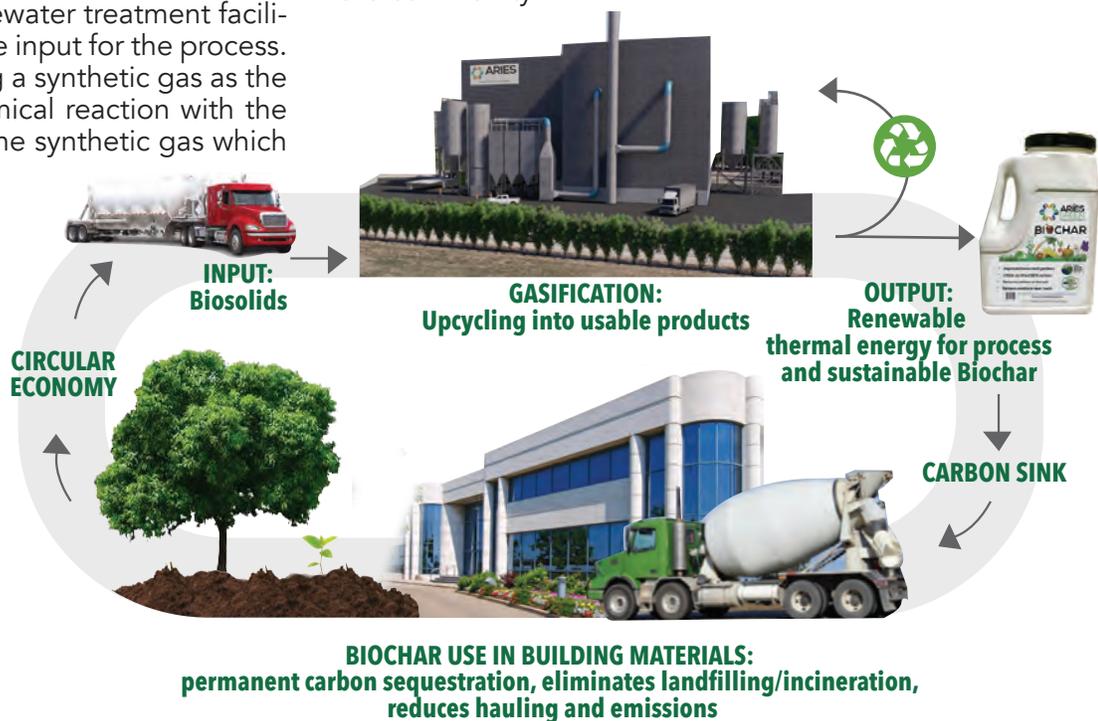
HOW DOES GASIFICATION WORK?

The Aries Kearny Biosolids Processing Facility will transform the organic material in biosolids into a "carbon sink" product. The gasification process is a closed loop, regenerative energy process that protects our environment.

Carbon based biosolids from wastewater treatment facilities in Kearny and the region are the input for the process. The biosolids are first dried utilizing a synthetic gas as the heat source. Next a thermo-chemical reaction with the biosolids in the gasifier produces the synthetic gas which reduces the need for fossil fuel-based natural gas. The gasification process converts the dried biosolids into a carbon-rich biochar. Biochar is inert and non-hazardous, and best of all offers useful and permanent carbon sequestration. Biochar is used as an additive in concrete applications.

Gasifiers operate at high temperatures in an oxygen starved environment with no flame present – nothing is burned in the gasifier. The USEPA has ruled that the Aries patented process is a gasifier - NOT an incinerator.

The facility features state-of-the-art air quality control technology that keep emissions safely below all state and federal health-based limits, demonstrating Aries commitment to protecting the health and welfare of the community.



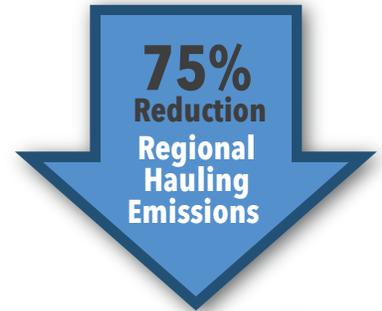
LOCAL & REGIONAL PROJECT BENEFITS

The Aries Kearny Biosolids Processing Project will protect clean water resources in the region through cost effective biosolids management. Municipal wastewater treatment plants in the region are facing a crisis in the safe management of biosolids. These plants treat wastewater from businesses and homes and discharge clean water to rivers, lakes and the ocean. Wastewater treatment plants are running out of places to safely dispose biosolids.

Gasification offers a zero-landfill solution for biosolids. This revolutionary process will divert 160,000 tons of biosolids from landfills and incinerators each year. The Aries Kearny project will provide an accessible, environmentally sound biosolids management solution for the region's wastewater plants.

The facility will also protect regional air quality. Aries patented gasification process has a lower greenhouse gas footprint than landfilling or incineration. Additionally, the truck emissions from hauling biosolids to distant landfills are projected to be reduced by over 75% due to the Aries facility's closer proximity to the region's wastewater treatment plants.

Protects Clean Water Resources



160,000 TONS OF BIOSOLIDS DIVERTED

GASIFICATION = GREEN JOBS

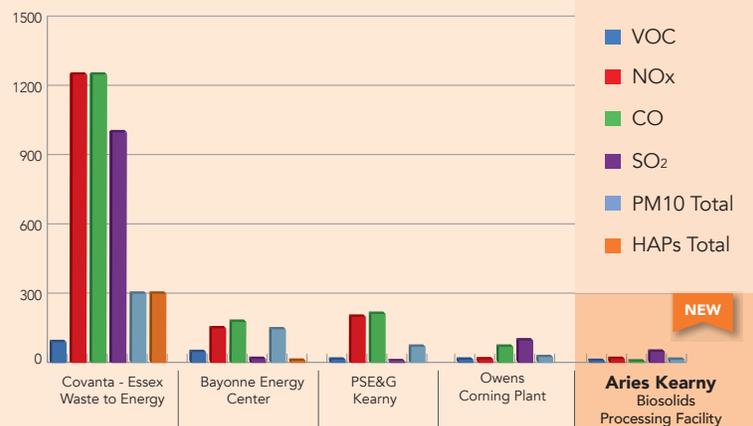
Addressing the climate crisis presents an opportunity to create an economy that moves away from extractive activities towards regenerative ones; cost effectively meeting the needs of the people today and those of future generations. The Aires Kearny Biosolids Processing Facility will meet that calling, by sustaining the natural environment through organic material transformation and protecting clean air and water. It will create 25 new full-time, high paying green jobs with an average compensation of \$75K a year, and 100 temporary skilled and general construction jobs. In addition to this, gasification offers the lowest cost option for biosolids disposal in the metro area, protecting the financial interest of shared services within the community.



GASIFICATION IS NOT INCINERATION

Gasification is a thermal process that converts organic material into usable products. Gasifiers operate at high temperatures in an oxygen starved environment with no flame present – nothing is burned. The US EPA has ruled that the Aries Biosolids Processing Facility is a gasifier - NOT an incinerator. The facility features state-of-the-art air pollution emissions control technology, meeting the NJDEP and EPA standards as a minor source.

Sustainable Biosolids Management With Gasification



Aries Kearny Has 95% Fewer Emissions than Covanta



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