



NEW YORK STATE ENVIRONMENTAL EXCELLENCE AWARD CASE STUDY

City of Kingston — *Honored for developing an innovative system for managing residuals of wastewater treatment plant solids.*

SUMMARY

The City of Kingston, awarded in 2008, partnered with the Aslan Group (a consulting firm) to develop a new and innovative approach for managing residuals from the city's wastewater treatment plant in an economical and environmentally beneficial manner through the generation of usable biosolids.

BENEFITS

Biogas, captured from the plant's digesters, is used as fuel to process municipal wastewater sludge into a U.S. EPA recognized pelletized biosolid. The pelleted material is available, free of charge, to local residents and businesses for lawn fertilizer or furnace fuel. This environmentally sound and economically viable project enabled the City of Kingston to divert more than 10,000 tons of waste from local landfills and to reduce truck traffic, which has had a positive effect on local air quality. This approach also prevents potential leachate from entering NYS waters and decreases the emission of NO_x and other air pollutants.



KEY METRICS

- Diverted more than 10,000 tons of waste solids from landfills annually
- Reduced energy consumption as the new system operates at nearly zero energy cost
- Generated 1 ton per day of biosolid from 10 wet tons of waste residuals
- Reduced truck traffic from two daily loads of waste to one load of biosolids every two weeks

ABOUT CITY OF KINGSTON

- Located in Ulster County
- Population about 24,000
- When the Dutch arrived in 1652, it was the state's first capital

NYS Environmental Excellence Award: Annual recognition of outstanding innovative and sustainable projects or programs and unique partnerships that are improving and protecting New York State's environmental resources and contributing to a stronger economy

A MODEL OF EXCELLENCE

- First NYS application of an international technology which improves sludge management practices at small and medium sized publicly owned treatment works
- Biosolids are distributed to golf courses, landscapers, excavators, and residents, saving tens of thousands of dollars on fertilizer that would normally be purchased.
- Pelletized biosolid product attained US EPA's highest rating, "EQ"
- Energy-efficient drying process exceeds state or federal regulations

HIGHLIGHTS

The innovative drying technology had been previously tested in Europe; however, this was the first application of the technology in New York. The Aslan Group assisted the City of Kingston with an evaluation of the plant's energy use and determined that the new technology could be integrated into the existing plant. The successful design was geared toward small municipalities; therefore, it serves as an economically viable example for others to follow.

This project has resulted in many significant environmental and economic benefits. Waste sludge is no longer being sent to a landfill and treatment plant odors have been significantly reduced as leachate is no longer produced. In addition, the dried pelleted product is distributed, at no cost, to consumers for lawn fertilizer or furnace fuel. The pellets can easily replace existing fuel sources in municipal incinerators. Due to fully automated systems, the plant has been operating at nearly zero energy cost and very little, if any, methane gas is flared. This has resulted in a reduction of greenhouse gas emissions.

The City of Kingston has hosted many tours of this new operational model and has made positive contributions to the local environment, economy and community.

FUNDING

The Kingston/ Aslan project was made possible through a combination of private and state funding. The New York State Business Development Corporation partnered with private banking firms in funding the Aslan Group on this project.