



Waste to Energy/Resource
Recovery Facilities

Creating
Environmental Solutions
Through
Renewable Energy



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Waste-to-energy is an effective method of waste management and volume reduction with the added benefit of generating clean energy. Modern waste-to-energy technology has proven to be safe, environmentally friendly and economical. Burning trash effectively destroys waste stream bacteria, pathogens and other harmful elements. The waste-to-energy process also reduces the incoming volume of waste by about 90%. The energy created by this process has become a reliable means of satisfying part of the world's need for clean and efficient energy.



Onondaga Resource Recovery Facility
40 MW/990 TPD - Solid Waste to Energy Facility, Onondaga, NY

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Burns and Roe Meets the Challenges

Burns and Roe is among the leading engineers of waste-to-energy/resource recovery industry in the United States. Burns and Roe's activities in resource recovery facilities date back, to the early 1970's, when we were selected to study various systems for resource recovery and bailing of the 4,500 TPD of solid waste from 118 northern New Jersey Communities. We have been a consultant, engineer, and project manager on scores of waste-to-energy facilities, including retrofits and facility upgrades to meet stringent air quality standards. Our project experience includes mass-burn and refuse derived fuel (RDF) to energy facilities ranging from 240 to 4,800 tons in daily capacity.

A Responsive Approach to Engineering and Construction

Our seasoned engineering, procurement and construction professionals are experienced in selecting critical waste-to-energy plant equipment and designing facilities around the equipment. Typically, Burns and Roe prepares detailed material and performance specifications for critical equipment, such as waste incineration and steam generating units, steam turbines, condensers, fans, pumps, air pollution control equipment, ash handling equipment, continuous emission monitoring equipment and other key equipment. We become part of our customer's team and assist them in the proposal process and in evaluating the most suitable bids for the equipment. We then designs civil, architectural, mechanical and electrical systems to provide cost-effective, efficient operating facilities.

Experience to Make It Happen

Our experienced project managers can guide you through the entire process of planning, siting, procurement, financing, permitting, facility design, construction, acceptance testing and operations. We have the project management systems in place and have a proven track record of managing waste-to-energy to successful completion. With the promulgation of stringent Clean Air Act Amendment emission limits, Burns and Roe can also implement low-cost facility retrofit projects to enhance the performance and extend the life of existing facilities.



Bristol Resource Recovery Facility
13 MW/650 TPD - Solid Waste to Energy

Burns and Roe's Representative Experience Waste-to-Energy/Resource Recovery Facilities

PROJECT	CAPACITY	SERVICES PROVIDED
Onondaga Resource Recovery Facility Onondaga, NY	990 TPD/40 MW	Engineering/Design & Startup Support
Huntington Resource Recovery Facility Huntington, NY	750 TPD/23 MW	Engineering/Design & Construction Management
Huntsville Resource Recovery Facility Huntsville, AL	690 TPD	Arch., Engineering/Design & Startup Support
Bristol Resource Recovery Facility Bristol, CT	650 TPD/13 MW	Engineering/Design & Startup Support
Hillsborough County Resource Recovery Facility Hillsborough, FL	1200/26 MW	Engineering/Design & Startup Support
Mercer County Resource Recovery Facility Mercer County, NJ	1450 TPD	Conceptual Design
Rutland Resource Recovery Facility Rutland, VT	240/6.4 MW	Engineering/Design & Startup Support
Pittsfield Resource Recovery Facility Pittsfield, MA	240 TPD	Design Tasks
Wallingford Resource Recovery Facility Wallingford, CT	360 TPD/9.3 MW	Preliminary Design & Project Development
Manchester Resource Recovery Facility Manchester, NH	420 TPD/10 MW	Conceptual Design
Baltimore Refuse-to-Energy Facility Baltimore, MD	2250 TPD/60 MW	Engineering/Design Retrofit
Westchester Refuse-to-Energy Facility Peekskill, NY	2250 TPD/60 MW	Engineering/Design Retrofit
East St. Louis Resource Recovery Facility East St. Louis, IL	2,400 TPD	Project Management
City of Chester Resource Recovery Facility Chester, PA	4,800 TPD	Project Management
Mad River Energy Recovery Facility Springfield, OH	1,750 TPD/37 MW	Engineering/Design
Hudson County Resource Recovery Facility Kearny, NJ	1,500 MW	Conceptual Design
Fibrominn Poultry Litter Power Plant Benson, MN	50 MW	Conceptual Design/Owner's Engineer

The Waste-to-Energy Advantage

Today's waste-to-energy facilities differ significantly from old fashioned municipal incinerators. The waste-to-energy process recovers the heat value of combusted trash to generate steam and electricity to power homes and industry. Modern pollution control systems ensure a cleaner-burning power plant. The waste ash is often recycled in landfills as daily cover or used in road building materials.



Westchester RESCO Refuse-to-Energy Facility
2250 TPD/60 MW - Waste to Energy Facility, Peekskill, NY

Burns and Roe has the experience in a wide variety configurations and types of waste-to-energy including mass burn and resource-derived fuel.

■ **Mass burn facilities** generate energy by feeding mixed municipal waste into large furnaces dedicated solely to burning trash. The resulting energy produces steam or electricity. Many mass burn facilities have nearby material recovery facilities, that separate and recycle trash prior to processing.

■ **Refuse-derived fuel plants** remove recyclable or unburnable materials and shred or process the rest of the trash into a uniform fuel. Sometimes, RDF powers a generating plant on site, and sometimes the fuel is burned off site for energy.

Burns and Roe Capabilities:

- Consultation and Studies
- Preliminary Engineering
- Plant Retrofit Programs
- Detailed Engineering and Design
- Construction Services
- Services to the Financial Community
- Plant Decommissioning
- Procurement Services Supply Chain



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