

White Paper
Association of New Jersey Recyclers
Legislative Proposal
Commercial Food Waste Recycling
March 27, 2014

Introduction: New Jersey has long been a National leader in recycling. Over 20 years ago, New Jersey established among the most aggressive recycling recovery targets in the United States through P.L. 1992, c.167 which amended the “New Jersey Statewide Mandatory Source Separation and Recycling Act” to increase the statewide minimum recycling goals to 50% of the municipal solid waste stream, and 60% of the total solid waste stream. This amendment became effective on December 2, 1992, and called for the achievement of these goals by December 31, 1995. The first ten years of mandatory recycling showed significant success and growth as a thriving industry. However, efforts stalled following the sunset of the Recycling Tax in 1997 after the loss of many Recycling Coordinators across the State who were funded through the Municipal Tonnage Grants Program. NJDEP has published detailed solid waste generation, recycling and disposal statistics since the mid 1990’s, the most recently available being for calendar year 2011. This information shows that statewide recycling actually peaked in the mid 1990’s. The State did achieve its TWS recycling rate of 60% during the three year period from 1995 – 1997, but did not attain the goal again for the ensuing 12 years. The State did recently release data for 2011 which once again shows achievement of a 60% TWS recycling rate.

The history of MSW recycling has been particularly challenging. The MSW rate is inclusive of material generated and recovered from households, commercial and institutional establishments from what the State defines as the “Type 10” waste. The applicable definition of Municipal Waste in New Jersey is:

“Type 10 - Municipal (household, commercial and institutional): Waste originating in the community consisting of household waste from private residences, commercial waste which originates in wholesale, retail or service establishments, such as, restaurants, stores, markets, theaters, hotels and warehouses, and institutional waste material originated in schools, hospitals, research institutions and public buildings.”

The Statewide recovery of the MSW stream actually peaked back in 1995 with a documented recycling rate of 45%. A steady decline in MSW recycling took place thereafter following the sunset of the Municipal Tonnage Grants Program, reaching a low point of 33% in 2003. Since that time and following the passage of the “Recycling Enhancement Act” and reinstatement of the Municipal Tonnage Grants Program, a recovery has begun with the 2011 rate at 40% - still significantly below the 50% target. This is disappointing in light of the fact that the State has had mandatory recycling legislation in place for more than 25 years dating back to 1987.

Moving Forward to Achieve the 50% Recycling Goal: Since the late 1970’s, solid waste management has been coordinated through a “County/State Planning Partnership” established in the Chapter 326 Amendments to the New Jersey Solid Waste Management Act. Recycling planning was added into this County/State Partnership in the 1980’s when the State Legislature passed the Mandatory Source Separation and Recycling Act. At the core of advancing recycling

was the designation of specific materials necessary for source separation in all 21 counties. The statutory requirement was for counties to designate “at least” (emphasis added) three materials, plus leaves for recycling. All counties initially selected newspaper, glass and aluminum cans.

Over time, Counties added many additional materials as curbside recycling became more and more popular and economic as markets for recovered materials evolved in a classic “supply and demand” scenario. Today, the average number of materials designated for mandatory recycling by individual counties has risen to 15, with a wide range of 5 materials up to as many as 24. It is very accurate to say that curbside recycling through County and Municipally run programs has been enormously successful over the past 25 years.

Notwithstanding this success, moving from a 40% to a 50% MSW recycling rate will require identifying and attacking what is left, literally, in the garbage can! Many municipalities have gone to “single stream” recycling to provide additional convenience to residents and, in many cases, to collect #'s 3 – 7 plastic. Many towns also provide for collection of “chipboard” which was historically not recovered from the MSW stream. While positive trends have developed for collecting 3 – 7 plastic and chipboard, it should be pointed out that these are lightweight materials that will not appreciably help achieve the 50% MSW recycling goal. Conversely, almost without question, the most significant material left in the waste stream by weight is food waste.

At the National level, statistics on solid waste generation, recycling and disposal for the United States is reported on by the USEPA. The most recently available data is for 2011 and reflects food waste making up 14.5% of all MSW. The National recycling rate for food is estimated at an extraordinarily low 1.6%. (By comparison, paper and paperboard is being recycled Nationally at nearly a 53% rate.) For calendar year 2011, NJDEP has published data which shows total Statewide solid waste generation to be 21,155,787 tons. Of this amount, 9,907,342 tons were estimated to be MSW. Using the 14.5% multiplier from USEPA, the amount of food waste can be estimated to be 1,436,564 tons. DEP has further published recycling data for 2011 and estimates that 295,466 tons of food waste recycling took place based on Municipal Tonnage Grant report submissions. Taken together, we can estimate a 20% recycling rate for food Statewide. While appreciably higher than the estimated National recycling rate for food, 20% is still the lowest recycling rate of any commodity historically tracked by NJDEP. There is little question that robust food waste recycling must be addressed more effectively if the State is to achieve the 50% MSW stream recycling rate. Notwithstanding the State goal, recycling food waste is also the right thing to do for sound environmental stewardship and sustainable material management.

Mercer County has nearly completed a current composition study which will provide a much better estimate of the amount and percentage of food waste “left in the garbage can” today – following the current level of recycling activity in Mercer County. Preliminary information from this study shows food waste at approximately 25% of what is left in the waste stream today – which further supports the significance of implementing a food waste recycling program across the State. Numerically, this 25% would translate to approximately one million tons of additional recycling needed per year to reach the 50% goal.

Status of Food Waste Recycling in New Jersey: Historically, in certain parts of the State, the source separation of food waste was commonplace at the residential curbside level with a robust pig farm industry serving as the market for the collected food. However, this practice stopped decades ago and only very recently has there been a movement to restore curbside food waste collection at the residential level. In terms of food waste recycling infrastructure, several outdoor windrow composting facilities operated primarily during the 1990's, but were ultimately closed for various reasons based on environmental and nuisance concerns (odors and leachate management). Over the past decade, a number of high technology, in-vessel food waste recycling facilities were permitted by NJDEP and operated for various durations of time. However, none of these facilities are operational at this time.

Currently, only one small Class C facility ("Ag Choice" in Sussex County) is operational in New Jersey on a pilot scale basis for the outdoor windrow composting of source separated food waste. This facility accepts approximately 10,000 tons per year or, on average, 35 tons per day (TPD). A larger commercial venture, "Organic Diversion," has been permitted by the NJDEP to operate at a scale of 400 TPD of food waste and other organic matter in Gloucester City, Camden County. This project involves the in-vessel anaerobic digestion of organic material for gas extraction and energy production – followed by windrow composting to produce a marketable compost. A pilot, in-vessel food waste composting system is operational at Kean University and shows great promise in producing soil amendment products in unprecedented time. However, this technology has not operated commercially as yet. Finally, Waste Management, Inc. has an application pending at the NJDEP to operate a food waste recycling project in Elizabeth. This project involves the use of a macerator and process equipment to convert source separated food waste into a liquid pulp, which can either be utilized by Class C Recycling facilities or could be introduced into the wastewater treatment plant digester at a wastewater treatment facility. Such introduction is anticipated to result in gas generation and extraction for energy recovery purposes, with the biosolid gestate sent for land application and beneficial reuse.

On the collection side, Princeton has operated a curbside food waste recycling program for the past several years on a subscription basis. The Program started in June of 2011 as a 3 month Pilot, but is now offered as a service to residents who subscribe. Under the current program, residents pay \$65 per year for the collection of source separated food waste at the curbside level on a weekly basis. Other Mercer County municipalities are considering a similar curbside service. Material is collected in special 32 gallon wheeled and lidded carts and transported by a private sector vendor to the Peninsula Compost Group facility in Wilmington, Delaware.

Why Is The Existing System Not Working?: As noted above, the historic Statewide recycling planning approach and checks and balances between State, County and Local Governments has yielded significant results in terms of building a vibrant recycling industry in the State which has resulted in recovery rates well above the National average. However, more is needed in terms of both public support and private investment to make food waste recycling a "norm" – as it has been for literally decades for such materials as paper, bottles and cans. The State is at a crossroads where concerted effort is needed by Government to focus on what remains in the garbage can and to help facilitate the development of food waste recycling infrastructure across the State. A key driver to make this possible would be a limited, well formulated ban on food waste disposal at landfills and mass burn incinerators. History has shown that government

support, as through passage of the Mandatory Source Separation and Recycling Act, administration of the associated Recycling Fund and resurrection of the Fund through the Recycling Enhancement Act, were critical in bringing New Jersey to its leadership position in recycling Nationally. A similar, targeted initiative for food waste recycling is now needed through a combination of action forcing Legislation, support from State Government and investment by the private sector. Neighboring States have recently enacted food waste recycling legislation which can serve as a template for New Jersey to follow.

Laws Recently Passed in Neighboring States: In June of 2013, the Association of New Jersey Recyclers (ANJR) created a “Food Waste Recycling Committee” to review options for advancing a progressive Statewide initiative to attack this important segment of the waste stream. Research quickly showed existing food waste recycling programs are in place in major cities, such as San Francisco, Portland, Oregon, Seattle and San Antonio. Further, several New England States (Connecticut, Vermont and Massachusetts) have enacted “commercial food waste bans” to address food waste recycling. Vermont passed food waste legislation in 2012 which phases in a disposal ban over time, beginning with large food waste generators in 2014. Connecticut’s law was enacted earlier in 2013 and became effective for large food waste generators even earlier as of October 1, 2013. The Massachusetts Department of Environmental Protection has proposed a commercial food waste ban to take effect by July 1, 2014 and has already identified a low-interest loan program to provide seed money for food waste compost facility development.

Following review, ANJR supports modeling a New Jersey commercial food waste disposal ban after the Connecticut legislation. The Connecticut law is carefully crafted to phase in a commercial food waste disposal ban over time. The law only becomes effective once permitted food waste composting facilities are operational. The law further establishes a reasonable threshold of applicability to commercial food wholesalers or distributors, industrial food manufacturers or processors, supermarkets, resorts or conference centers that each generate an average volume of not less than one hundred four tons per year (or about two tons of food waste per week). Finally, generators are only covered under the ban if a permitted food waste recycling facility is located within 20 miles of the generator.

Specific Legislative Proposal: Following review of the Connecticut Model, ANJR supports the following basic provisions of commercial food waste recycling legislation. These provisions apply the law to commercial/institutional generators only – and those that generate significant quantities of food waste defined (as in the Connecticut Model) as 104 tons per year (or 2 tons per week). The law also only applies if a permitted Class C Recycling Facility for food waste is located within 35 miles of the generator and the cost is less than the regularly used disposal option (landfill, incinerator or transfer station). The framework for draft legislation would be proposed to include the following:

- Amend the regulatory definition of a Class C Recycling Facility to include both aerobic and anaerobic processes. ANJR believes that all potential technological options should be eligible, which is consistent with DEP permitting which is performance based (projects need to show that they can meet regulatory standards), as opposed to technology based;

- Establish a mandate to recycle food waste for all commercial/institutional establishments including but not limited to commercial food wholesalers or distributors, industrial food manufacturers or processors, supermarkets, hotels, conference centers, colleges, and hospitals if:
 - a facility approved by the NJ DEP to accept food waste is located not more than 35 road miles from said establishment;
 - the establishment generates a projected volume of not less than 104 tons per year of Class C recyclable materials (7:26A-1.3) materials;
- Define compliance by the generator as separation of food waste from other solid waste; and ensuring that such source-separated organic materials are
 - delivered to a permitted Class C facility (or other States' equivalent);
 - composted or treated on site;
 - delivered to an approved pig farmer (recognizing that source separated food waste has been utilized by the pig farming industry for decades);
- Allow for an exemption from the mandate if the lowest tipping fee at a Class C facility within 35 road miles of the generator exceeds the tipping fee at a licensed solid waste facility within 35 miles of the generator or exceeds the solid waste facility that waste is directed to as per an approved District Solid Waste Management Plan. In this way, use of the Class C facility must be lower than the regularly used disposal facility (landfill, incinerator or transfer station);
- Include an economic benefit (host community) of \$.50 per ton of food waste brought to any municipality within which an approved Class C recycling facility which is accepting food waste is located pursuant to an adopted and approved District Solid Waste Management Plan. ANJR believes this economic incentive provision will be helpful in new Class C facility siting. Statutory host community benefit provisions are in current law for at least \$1.00 per ton for a municipality with a landfill and at least \$.50 per ton for a transfer station.
- A requirement imposed on State Agencies to form an interagency council or committee to work in concert with the private sector to assist with market development for end products produced from food waste recycling facilities.

Practical Impact of Legislation: As noted earlier, ANJR firmly believes that existing County and municipal recycling programs will not attain the State goal of 50% MSW recycling in the absence of a legislative initiative to ban food waste from disposal. The proposal being offered is carefully crafted after the Connecticut Model to make sure that generators are not harmed economically by the disposal ban. Further, as noted, New Jersey currently has virtually no high technology commercial Class C recycling infrastructure in place. ANJR feels strongly that this type of legislation will serve as a driver to attract food waste recycling vendors to the State. We hope to work very closely with the NJDEP and other State agencies – including the Governor's Office – to gain support for expedited regulatory review procedures and economic incentives to further entice vendors to bring their technologies to New Jersey. At the core of this proposal is belief that a limited disposal ban statute for food waste will stimulate a new growth industry for commercial businesses and serve as the lynchpin toward achieving the longstanding Statewide goal of 50% MSW recycling.

Economic Analysis: As noted above, the legislative proposal is designed to ensure that generators covered by the bill will not be harmed economically. Safeguards are applied in terms of ensuring lower cost to use the Class C facility approved to accept food waste, when compared to the local disposal option. The 35 mile distance criteria applicable to the nearest Class C facility approved to accept food waste also ensures that generators are also not negatively impacted with respect to disproportional transportation costs. Beyond tipping fee and transportation cost concerns, in-store or in-facility separation and handling of food waste should also be addressed. As noted above, New Jersey has, from time to time, had commercial food waste recycling facilities in operation at various locations across the State. As a result, many generators, such as supermarkets, have already developed the protocols and administered training to company employees. At present, significant quantities of source separated food waste are also being transported across the State to an existing food waste composting facility located in Wilmington, Delaware. As a result, ANJR does not believe that generators will be disproportionately affected in terms of employee training, separation and handling as these costs have already been absorbed in most cases.

In terms of actual tipping fee costs, a review of existing disposal rates is appropriate. At present, the State's solid waste transfer and disposal infrastructure consists of 41 facilities that have "Certificates of Public Convenience and Necessity" and posted Tariff rates approved by the NJDEP. This disposal infrastructure consists of 13 landfills, 5 mass burn incinerators and 23 transfer stations. While significant variance exists depending on location, the Statewide average for Type 10 waste disposal at sanitary landfills is \$74.40. The Statewide average for Type 10 at mass burn incinerators is \$85.61 and \$84.77 at transfer stations/materials recovery facilities. Under the legislative proposal, tipping fees at NJDEP approved Class C recycling facilities approved to accept food waste would have to be below existing disposal rates or generators would be exempt from the requirement to utilize them. Based on this program design, food waste generators covered by the proposed legislation will be guaranteed lower cost tipping fees.

To this point, there are four operational food waste (and other organic matter) recycling facilities in the region. As noted earlier, the only operational facility in New Jersey is Ag Choice located in Sussex County. This facility is currently charging about \$45 per ton. The most frequently used site in the region is operated by "Peninsula Composting Group" in Wilmington, Delaware. This facility charges in the range of \$47 - \$55 per ton based on generator location and associated transportation costs. "Chesapeake Compost" is located in Baltimore and charges about \$55 per ton. Finally, a very small outdoor operation in Pennsylvania, "Two Particular Acres" charges \$45 per ton. Based on this regional pricing, it would appear that significant cost savings should accrue to generators who are ultimately covered under the proposed legislation when these tipping fees are compared to existing disposal rates in New Jersey.

Assistance From the State: One of the primary objectives of the Legislation is to jump-start interest in the private or public sector in developing commercial food waste recycling projects. It is also incumbent that the State of New Jersey show support for the advancement of food waste recycling. State assistance will be needed in terms of expedited regulatory review, financial incentives, market development and overall program advocacy toward achievement of the State's 50% MSW recycling rate. Logical areas for further attention in discussions with the NJDEP, EDA and the Governor's Business Action Center include the following:

- **Expedited permitting** will be crucial to the initiative toward giving public and private vendors an incentive to pursue commercial project development. DEP already has an excellent procedure for this through “DEP One-Stop” under the Office of Permit Coordination. Beyond this, the State may wish to consider:
 - Bringing back the “**Temporary Certificate of Authority to Operate**” (TCAO) procedures from the past to allow facilities to come into operation more quickly, yet only after thorough environmental review;
 - Utilizing or bringing back the “**Master Performance Permit**” vehicle which was the key to historic expedited permitting conducted by the NJDEP;
 - Utilizing N.J.A.C. 7:26-6.11(b) and “but not limited to” language to allow the use of an “**Administrative Action**” for the purposes of county plan inclusion – at the discretion of the host County;
 - Reviewing the existing “**Research, Development and Demonstration**” (RD&D) **program** criteria at N.J.A.C. 7:26-1.7(f) to see if we can make maximum utilization of this expedited permitting procedure;
 - If the full Plan Amendment process outlined in N.J.A.C. 7:26 - 6 is deemed necessary, agreement by the State to conduct “**expedited State Agency review**” to fast-track the State Agency side of a Plan Amendment in 30 days (which has been done upon request in the past).

- **Technology Review:** From a regulatory standpoint, NJDEP is predominately a “standards based,” as opposed to “technology based” regulatory agency. In other words, the State is “technology neutral” and will review permit applications on the basis of existing regulatory provisions and standards. This being said, the State convened in October, 2012, the “New Jersey Clean Energy Innovation Council” (NJCEIC) as an interagency group consisting of the following entities: NJDEP, Board of Public Utilities, Economic Development Authority, Department of Agriculture, Department of Community Affairs, the Governor’s Office, New Jersey Corporation for Advance Technology, Rutgers University, the Rutgers Eco-Complex and other academic institutions. Should the State deem it necessary to perform pre-screening of emerging food waste recycling technologies, this effort should be coordinated and expedited through the NJCEIC as the State’s standing committee of interagency and academic experts.

- **Market Development:** In addition to the recommended Legislative mandate to recycle food waste (generating feedstock supply) and creating a regulatory environment to attract investment in new facility construction (infrastructure), it is critical that markets for end product (demand) be further developed. The State can play an important part in this process as it has in the past under Governor Executive Orders on recycling and the

procurement of products made with recycled content. Such assistance could include requirements for the use of compost and/or soil amendment products in government projects, as well as price preference for contractors who propose the use of such products in response to government bid solicitations. ANJR recommends that Legislation require the formation of an interagency panel to develop market development strategies. Such a panel would likely include representation, at a minimum, from the NJDEP, DOT, Department of Agriculture, BPU, EDA, Attorney General's Office and Governor's Office (Business Action Center).

- **Economic Incentives:** Various State agencies administer economic incentive programs to attract and retain new business and to jump start emerging technologies. It is recommended that an interagency team be developed – similar to how the DEP “One Stop” Program is administered, to review opportunities and availability of financial incentives for the food waste recycling initiative. Existing programs for review would logically include:
 - **New Jersey Business Action Center:** The New Jersey Business Action Center, which operates under the leadership of the Lieutenant Governor/Secretary of State, plays a key role in helping grow, retain and attract business to the State. The center serves as a “one-stop” shop for business. This would appear the best hub for packaging coordinated financial assistance between State agencies;
 - **Economic Development Authority:** The EDA has long served an important service in administering financial assistance programs in the State. Under recent legislative changes, EDA has consolidated existing programs under “Grow NJ” and the “Economic Redevelopment & Growth Grant Program.” EDA would appear to be a key player in assisting food waste recycling applicants;
 - **Board of Public Utilities:** The BPU has long administered the “New Jersey Clean Energy Program.” Under NJCEP, the Board also administers the “Sustainable Biopower Incentive Program” which is anticipated to be streamlined and improved in 2014 to allow more competitive solicitations for project funding. Such assistance would be valuable for food waste recycling technologies that include renewable energy generation and recovery;
 - **NJDEP:** Finally, NJDEP created a \$200,000 recycling demonstration program to help establish food waste recycling systems on college and university campuses. This program is funded through the Recycling Tax established in the “Recycling Enhancement Act”, which includes a provision for funding recycling research and demonstration projects at our state’s colleges and universities. Use of this portion of the fund in perhaps a broader manner should also be considered.