Request for Information

New and Emerging Solid Waste Management and Recycling Technologies and Approaches

Release Date: April 21, 2004

Submission Date: May 24, 2004, 3:00 p.m.

TABLE OF CONTENTS

1.0 INTRODUCTION AND BACKGROUND INFORMATION

1.1 Introduction

The New York City Department of Sanitation (DSNY) is in the process of developing a new comprehensive plan for managing, in a reliable, environmentally sound and cost-effective manner, the nearly 25,000 tons of municipal solid waste (MSW) that New York City's residents and businesses generate daily. The planning horizon for this new solid waste management plan (SWMP) covers the years 2004 to 2024. Given the scope of this SWMP, the New York City Economic Development Corporation (NYCEDC) is working in conjunction with DSNY to ensure that the SWMP reflects an understanding of the state of new and emerging technologies and approaches for the processing, and disposal of solid waste and recyclables, as well as a cognizance of the regulatory and business environment in which these technologies and approaches are evolving.

To this end, DSNY and NYCEDC have retained an independent consulting firm to conduct an Evaluation of New and Emerging Waste Management and Recycling Technologies and Approaches (Evaluation). This Request for Information (RFI) is part of the Evaluation and is designed to help identify and provide information to preliminarily assess such new and emerging technologies. The goal of the RFI is to enable the City of New York (the City) to better understand what technologies are available and which may be appropriate for further consideration.

The results of the Evaluation will assist the City in its ongoing planning efforts regarding the incorporation of innovative technologies into the waste management system. Specifically, the City seeks to understand which appropriate innovative technologies are available now, which are soon-to-be commercially available and which are especially promising, but in the earlier stage of development. The results of the Evaluation will also help the City decide how and whether to initiate pilot facilities/programs to support the development of innovate waste technologies in order to help bridge the gap between ideas and practical, implementable solutions. Such pilot facilities could be sized at several hundred tons per day or larger, depending on the specific technology and City needs. The results of the Evaluation will be presented in an Evaluation Report, which will be included in the City's SWMP.

It should be understood that this RFI will not result in any type of procurement of goods or services, and does not represent a commitment on the part of the City to enter into any type of agreement with the companies that choose to respond. The information provided by respondents will not be used by the City to pre-qualify respondents or in any other way determine eligibility for the purposes of any procurements that may be undertaken in the future. This RFI does not change or influence any of the City's objectives or intentions stated in the recent Request for Proposals (RFP), issued by DSNY, for long-term waste export and disposal services.

NYCEDC is sending this RFI directly to companies that have presented technologies and approaches to the City for consideration. It is also being posted on DSNY's and NYCEDC's respective websites (www.nyc.gov/sanitation and www.nycedc.com) and advertised in select publications that address engineering and solid waste management issues. This solicitation is open to all who choose to respond and offer a new and emerging technology as further described in Section 1.3.

1.2 Past Submissions for New and Emerging Technologies

In the recent past, the City has received many unsolicited proposals from companies offering the development of innovative technology-based solid waste management facilities. It has been the practice of the City to review such proposals and, when possible, without commitment, meet with the companies to further explore the potential application and feasibility of the technologies proposed. The Evaluation that is being conducted will include those previously received unsolicited submittals that represent new and emerging technologies, as well as additional information generated through this RFI and other sources.

1.3 Consideration as New and Emerging Technology

This RFI is intended to solicit information on new and emerging mechanical, biological, thermal and chemical solid waste management processes and technologies. For the purposes of the Evaluation, "new and emerging technologies" are defined as those that are not currently in widespread commercial use in the United States, or have only become commercially available in the United States in the last five years. Proven, commercialized solid waste management processes and technologies such as conventional waste-to-energy, landfilling, and stand-alone materials recovery facilities (MRFs) will not be considered for this Evaluation. Materials recovery systems that are required as a prerequisite to other waste processing systems (e.g., to prepare incoming material as feedstock for gasification, anaeroboic digestion, waste-to-ethanol, waste-to-levulinic acid systems, etc.) will be considered in the Evaluation. Refuse Derived Fuel (RDF) technologies will be considered upon demonstration by the vendor that the RDF technology offers innovative features with substantial improvements and advantages over conventional RDF technology. Finally, as DSNY has already conducted a separate, thorough evaluation of MSW composting/co-composting, these technologies will also not be considered in this Evaluation.

2.0 TECHNOLOGY AND RESPONDENT INFORMATION REQUEST

In responding to this RFI, respondents are requested to provide the following information, in the order presented below. **The City recognizes that, particularly for technologies that are still in the early stages of development, all information requested may not be available.** The City encourages respondents to be as complete and detailed in their responses as is practical.

Section 1 – Executive Summary

Provide a brief summary/overview of the material and information contained in the body of the response, including a discussion that highlights the technology and approach presented and the potential benefits of such to the City.

Section 2 – General Respondent Information

Respondents are requested to provide the following company information:

(1) The full name of the respondent, principal contact person, street address, telephone, fax and email address.

(2) A brief discussion of the respondent's businesses and its operations, business history and ownership structure.

(3) A brief discussion of the respondent's history and experience in the solid waste management industry, including both domestic (US) and foreign experience.

(4) A brief discussion of the respondent's experience in implementing solid waste management facilities and projects (e.g., experience with approaches such as design-build-operate/DBO, design-build-own-operate/DBOO, design-build-own-operate-transfer/DBOOT, etc.), including experience in New York State. Where pilot or commercial facilities have been implemented, respondents should identify their joint venture or teaming partners, and other principal participants in the development and operation of the facilities. Respondent's insights into the advantages and disadvantages of implementation approaches, given the circumstances surrounding their technologies and business postures, should be presented.

(5) A discussion of the respondent's history and experience with the proposed technology (e.g., years in development; years of respondent's direct history with the technology; ownership, patent and/or license arrangements; other parties involved in technology development; technology improvements resulting from respondent's testing and/or development).

(6) Capabilities and experience in providing financial guarantees and security instruments such as corporate guaranties, letters of credit, construction and operations performance bonds.

(7) The annual reports for the two most recent fiscal years of the respondent and, if appropriate, its parent corporation.

Section 3 – Description of Technology and Approach

The discussion of technology and approach should be prefaced by a brief discussion of the respondent's basic concept for providing waste management services with its technology. This should cover financing and ownership, City requirements, possible location, a general description of waste handling and processing at the facility, energy and/or materials products, and residuals management.

(1) Description of the technology, including:

- (a) general description;
- (b) types of wastes acceptable and tolerance for contamination; description of front-end processing required to prepare process feedstock;
- (c) process schematic(s) and major system components list (e.g., front-end processing/waste separation/handling; mechanical, biological, chemical or thermal treatment; pollution control; residuals handling);
- (d) characterization of marketable products (e.g. energy, materials, chemicals);
- (e) characterization of process residuals (i.e. by-products and other outputs including process waste water), and associated disposal requirements;
- (f) minimum and maximum facility size(s) and unit size(s) (TPD);
- (g) mass and energy balance information (including projected residue rates, based on the New York City waste-composition data attached in Appendix A);
- (h) consumptive water needs (including recirculation ability);
- (i) annual availability/reliability data (or, as appropriate, estimates);
- (j) facility and site layout, and equipment general arrangement;
- (k) site size requirements, as related to facility size (including space required for pre-processing/separation/materials recovery equipment, product storage areas, equipment maintenance and vehicle access areas);
- (l) particular siting, construction and/or operations requirements and restrictions (e.g., utility needs, staffing requirements as related to size, setback buffer requirements to sensitive receptors, waterfront, etc);
- (m) expected or preferred location (i.e., in-City, out-of-City, New York State, elsewhere), recognizing that out-of-City locations are likely to receive containerized waste; and
- (n) artist's rendering (if available) or photographs of existing facility(ies).

(2) Discussion of the stage of technology development:

- (a) laboratory/benchtop demonstration (including years in development), with available testing/operating data; patent information; location(s);
- (b) pilot facility (at what size and for how many years), with available testing/operating data; facility location(s);

(c) full commercialization (for how many years, number of installations, size, experience and performance record to date), with available operating data for each facility location; and

(d) if not fully commercialized, projected time frame to achieve commercialization and factors influencing achievement of commercialization.

(3) Discussion of environmental performance:

(a) data (laboratory, pilot and/or field tests, as appropriate) regarding air, water, odor and other emissions and the ability to meet US federal and New York City and State pollution control and emissions standards; and

(b) quality characteristics and handling/disposal requirements of by-products and residuals (including process waste water).

(4) Discussion of process flexibility and adaptability (i.e., ability to respond to changes in waste characteristics, market conditions and more stringent regulatory requirements that may occur over time).

(5) Discussion of proprietary aspects of the technology and of how such may impact initial implementation and long-term operations.

Section 4 – Project Economics

(1) Cost information (estimated or experienced with relevant supporting information) in US dollars:

(a) Capital Costs –all inclusive of structures, equipment, storage facilities, environmental control systems, ancillary systems, vehicles, etc., but excluding costs for site acquisition, abnormal site conditions, site remediation, project development, engineering and permitting ("soft costs"). Please include assumptions for any financing related costs (public or private financing, terms, etc.).

(b) Annual Operating and Maintenance Costs – including labor, energy, equipment repair and replacement, as well as disposal costs of all residuals and non-saleable by-products (identified in Part 2, Section 3.1 (e) above).

(c) Annual Income – including revenue from sales of products, energy and/or chemicals (identified in Part 2, Section 3.1 (d) above), and tip fees, with a discussion of product marketing risks and uncertainties (i.e., market volatility) and disclosure of financial consequences (i.e., cost impacts) of market fall-off or market rejection of products.

(2) Discussion of potential economic development opportunities, such as jobs during construction, long-term operations-related employment, and ancillary or collateral economic development aspects such as supporting service industries and post-MSW process/treatment waste handling or materials processing and reuse.

Section 5 – Business and Financial Terms

Given the array of financing, ownership and business approaches available, the City is interested in respondents' views regarding the following matters.

(1) Discussion of the respondent's interest in alternative implementation approaches (Design-Build, Design-Build-Operate, Design-Build-Own-Operate, etc.). Illustrative examples of financings, public or private that the respondent has been involved in would be appreciated. Respondents should specifically indicate their interest in privately financing and owning facilities, their ability/interest in providing private equity, and their capabilities to carry out the financing and development of privately owned facilities.

(2) Discussion of the respondent's views regarding the provision of guarantees (e.g., would it/does it offer cost any performance guarantees (either the company or via a parent corporation)? Are any such guarantees provided with financial caps or limits? Would it/does it offer security instruments such as letters of credit and construction and operations performance bonds?

(3) Regarding technologies that may produce marketable products (whether materials, chemicals or energy products), would/does the respondent take full business risk regarding product quality, marketability, sale and revenues derived from such products, and related risks such as residuals disposal?

(4) Discussion of the respondent's experience and capabilities to develop and implement facilities under various implementation scenarios (including siting, permitting, design, construction, operations, etc.).

(5) Discussion of the respondent's basic risk positions regarding: the minimum size project it would undertake; its preferred contract term length; risks and/or obligations, *other than the delivery of waste and payment of service fees*, that it would expect the City to absorb (particularly regarding privately-owned facilities).

Section 6 – Appendices

DSNY and NYCEDC encourage respondents to provide, in addition to the specific information requested by this RFI, whatever additional information the respondent believes will further the City's understanding of the technology(ies), approach(es) and business and implementation matters addressed by the respondent.

Provide additional materials, if any, included as appendices or exhibits.

3.0 SUBMISSION INSTRUCTIONS

3.1 City Contact/Delivery Instructions

Responses to this RFI should be submitted to the City, as follows:

Original and eight hard copies to:

Venetia Lannon, Assistant Vice President
New York City Economic Development Corporation
110 William Street, 4th Floor
New York, New York 10038

Also include two (2) copies on CD-Rom, Microsoft Word compatible.

Responses are due at the above address by **4:00 PM EDT on May 24 2004**.

3.2 Modifications and Questions.

1. Any modifications to this RFI shall be posted by DSNY and NYCEDC on their respective websites (www.nyc.gov/sanitation and www.nycedc.com) (the "Websites"). Nothing stated at any time by any representative of NYCEDC or DSNY or of any other entity shall effect a change in, or constitute a modification to this RFI unless posted on the Websites or confirmed in writing by NYCEDC or DSNY.

2. Any questions regarding this RFI should be directed to Venetia Lannon at NYCEDC. Only written inquiries will be accepted. Written inquires may be submitted via mail, fax (212) 312-3915 or e-mail emergingwastetech@nycedc.com Respondents may submit questions to and/or request clarifications from NYCEDC no later than 4:00 p.m. on May 3, 2004. Any questions or requests for clarifications received after this date will not be answered. All questions received before 4:00 p.m. on May 3, 2004 will be answered no later than May 10, 2004, and NYCEDC and DSNY shall post such answers on the Websites, so as to be available to all respondents, if NYCEDC and DASNY determine that such answers provide material clarifications to the RFI.

3. **Respondents are reminded to check the Websites periodically to view updated information and answers to questions posed by other respondents.**

3.3 Respondents' Costs/City Obligations

Respondents acknowledge that the costs associated with any responses submitted by them to this RFI will be borne solely by them, and that the City will not bear any costs or obligations related to the preparation and submission of responses. The City is soliciting information only and does not commit, now or in the future, to any procurement or purchase, or contract regarding, any of technologies or approaches that are the subject of this solicitation. The information provided in responses to this RFI may or may not be used by the City in solid waste planning activities. Each Respondent acknowledges and agrees that by submitting a response it thereby releases DSNY,

NYCEDC, The City of New York and their respective employees, officers, contractors, subcontractors and agents (collectively, the "Released Parties") from and any and all claims, losses, liabilities arising directly or indirectly from the use, reuse or dissemination by the Released Parties of any information submitted by such Respondent in connection with the RFI.

Respondents are encouraged to avoid the submission of trade secrets, proprietary information or confidential information. All proposals submitted to NYCEDC and DSNY in response to this RFI may be disclosed in accordance with the standards specified in the Freedom of Information Law, Article 6 of the Public Officers Law of the State of New York ("FOIL"). An entity submitting a proposal may provide in writing, at the time of its submission, a detailed description of the specific information contained in its submission, which it has determined is a trade secret and/or proprietary and which, if disclosed, would substantially harm such entity's competitive position. This characterization shall not be determinative, but will be considered by NYCEDC and DSNY when evaluating the applicability of any exemptions in response to a FOIL request.

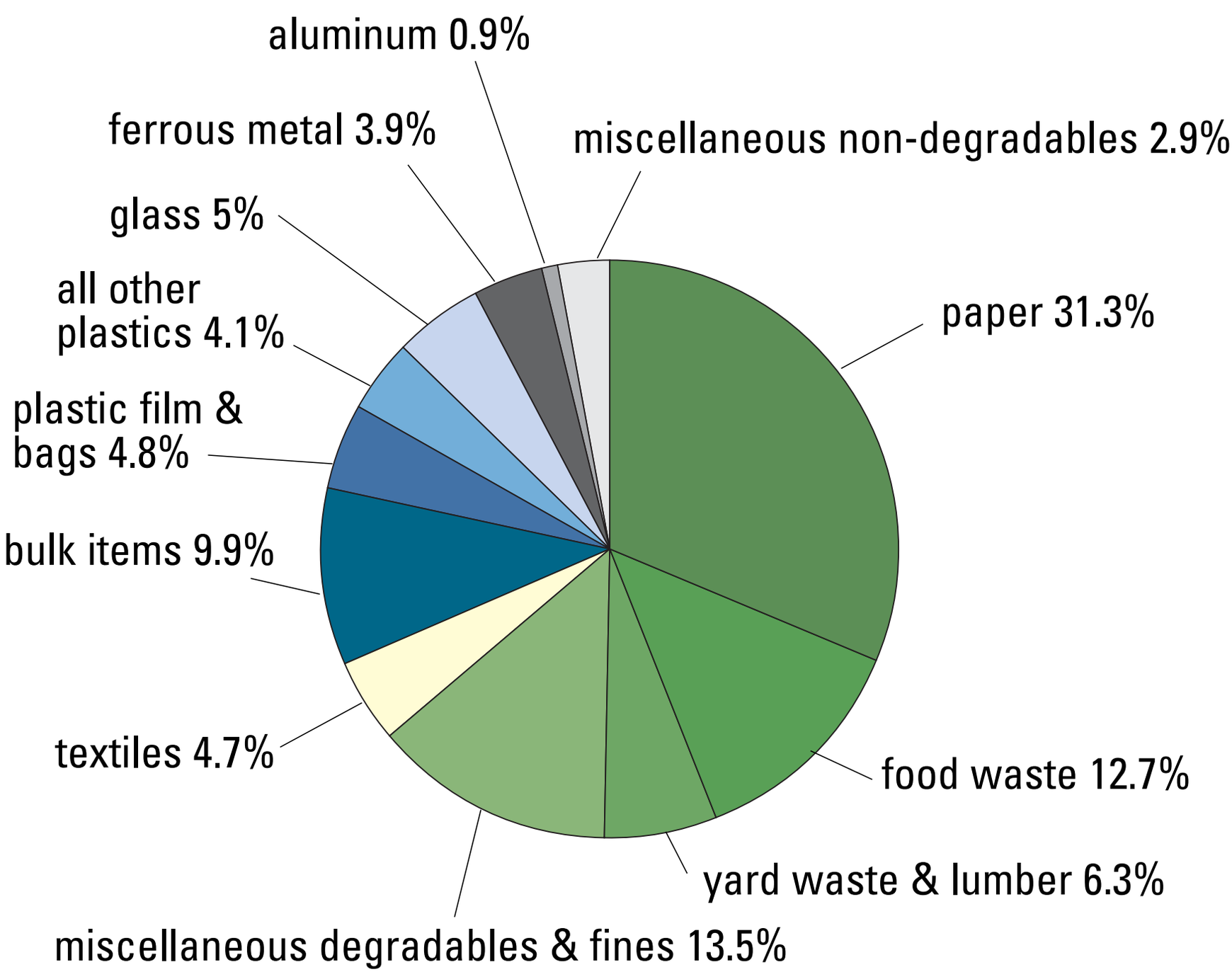
APPENDIX A

NEW YORK CITY WASTE COMPOSITION DATA

Note: The New York City Department of Sanitation is responsible for the collection and/or arranging for disposal of all waste generated by City households, as well as waste from City, state and federal agencies and not-for-profit institutions in the City. Figure 1 depicts the Citywide, four-season average composition of residential, or "household" waste, and Figure 2 presents the Citywide, four-season average composition of the waste collected from the "institutions" mentioned above. These two waste streams are collected together. Neither of these figures characterizes New York City's commercial waste, which is collected and disposed separately by private waste-hauling companies.

Figure 1

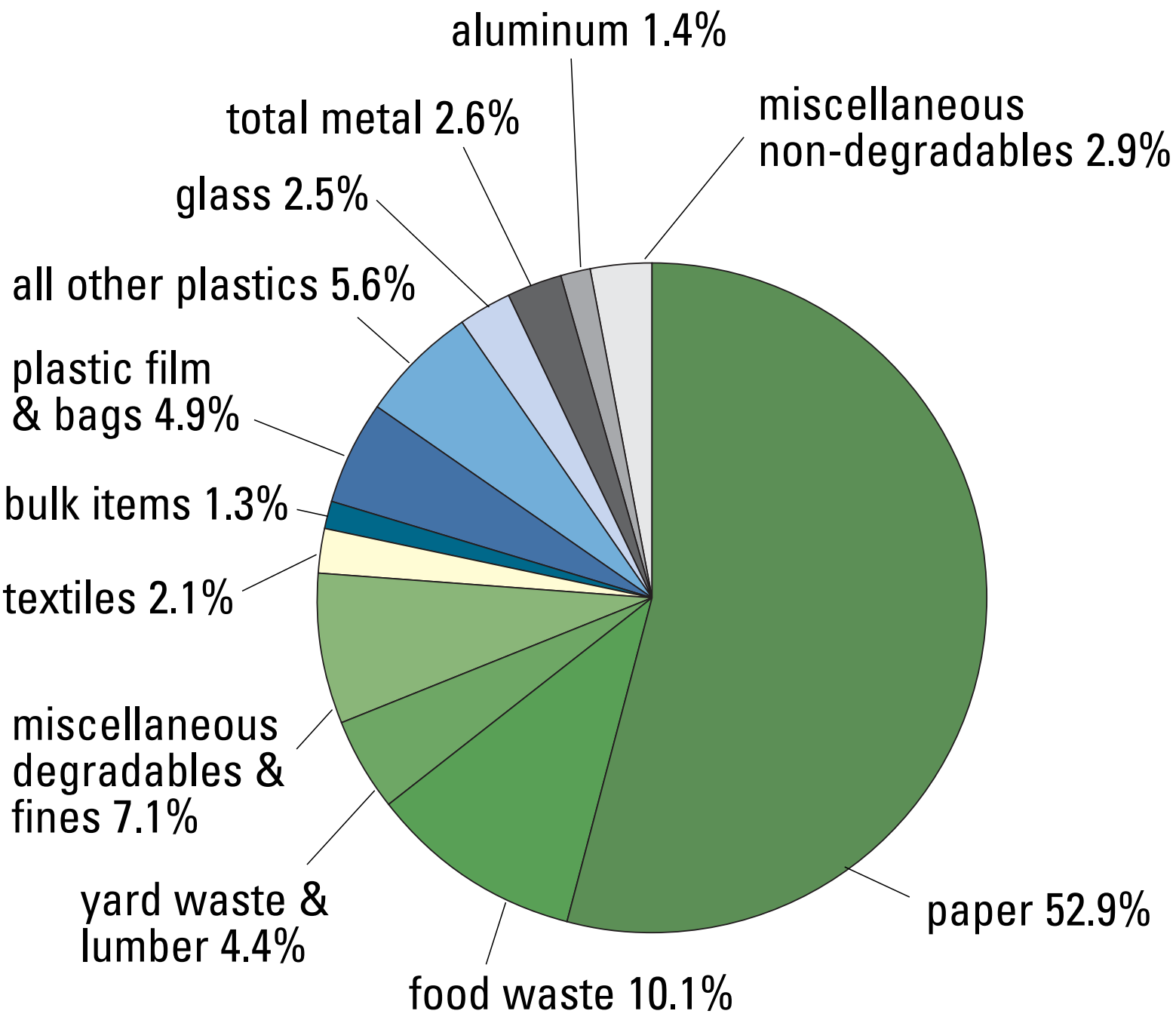
Annual, Average, Citywide, Residential-Waste Composition (1990)



Source: 1992 Solid Waste Management Plan, Appendix 1.2, Waste Stream Data

Figure 2

Annual, Average, Citywide, Institutional-Waste Composition (1990)



Source: 1992 Solid Waste Management Plan, Appendix 1.2, Waste Stream Data