Background

This report presents the recommendations of the Recycling Economic Information Project, undertaken by the Northeast Recycling Council (NERC), with funding provided by the U.S. Environmental Protection Agency (EPA). The project's primary objective is to recommend to EPA a methodology for conducting a study of the U.S. recycling and reuse industries.

NERC undertook extensive research to develop the recommended methodology, including review of completed recycling economic impact studies, review of existing government and private sector sources of economic information, a survey of potential study users and interviews with dozens of technical experts, industry associations, government agencies and other organizations whose support will be crucial to the study's success. This report is intended to guide implementation of the national study, and its extensive reference information and industry definitions will be useful to a variety of recycling industry researchers. The methodology should be viewed as flexible and further refined during its implementation.

Goals for the Recommended Study Methodology

NERC's recommended methodology is designed to address the most important shortcomings of currently available economic information by:

➢ providing a baseline of the most useful information on 45 different categories of recycling and reuse businesses; and

➢ providing information and standard definitions to facilitate and improve future state and local studies of the recycling and reuse industries.

Anticipated uses for the study results include:

➢ Economic developers, bankers and other financiers will use the study to better understand the marketplace in which specific companies operate, and to evaluate financing deals involving recycling and reuse companies.

➢ Entrepreneurs will use the study results to identify and evaluate market opportunities in the recycling and reuse industries.

➢ Government decision makers will use the study results to evaluate existing and future policies involving recycling and reuse.

➢ Recycling advocates will use the study to enhance their understanding of the recycling and reuse industries, to target resources to promote the industries' growth and to increase awareness of recycling and reuse as private sector industries, among government decision makers, entrepreneurs, financiers, economic developers and others whose support is vital to recycling's continued growth.

Types of Recycling and Reuse Businesses Included

NERC identified 45 categories of recycling and reuse businesses and grouped these into five industry segments. The report defines the boundaries of recycling to include collection, processing and the first-stage product manufactured using scrap materials as feedstock (e.g., production of large paper rolls from pulp is included; converting paper rolls to sheets or envelopes is not). Reuse is divided into wholesale and resale. A variety of enterprises which support recycling and reuse businesses through equipment manufacture, brokering and other activities are also included. All non-hazardous scrap materials and used products are defined as within the recycling and reuse industries.

List of Recycling and Reuse Business Establishments Included in the Recommended Methodology *(* indicates limited data will be obtained)*

Recycling Collection
*Government-staffed collection programs
*Hauler-based collection
*Disposal facility-based collection
*Commercial facility-based collection
*Manufacturing and industrial facility-based collection

Recycling Processing and Manufacturing
Recyclable material wholesalers
Materials recovery facilities
Construction & demolition debris processors
Deinked market pulp producers
Paper and paper board mills
Other paper product producers
Beneficiation facilities
Glass container manufacturing plants
Fiberglass insulation producers
Other recycled glass product producers
Detinning facilities
Steel mills
Iron and steel foundries
Smelting and refining mills
Nonferrous extruded product producers
Nonferrous foundries
Plastics reclaimers
Plastics converters
Crumb rubber producers
Miscellaneous rubber product manufacturers
Recycling Processing and Manufacturing (Con't.)
Compost producers
Miscellaneous organics product producers
Aggregate and pavement mix producers
Textile processors
Used oil refiners (not for fuel)
Household hazardous waste processors (for recycling only)
Other recycling processors and manufacturers

Wholesale Reuse
Tire retreaders
Electronic appliance demanufacturers
Wood reuse
Materials exchange services
Motor vehicle parts
*Equipment remanufacturers
Miscellaneous used merchandise sales (wholesale)

Retail Reuse
Miscellaneous used merchandise sales (retail)
Repair and used product shops

Support Businesses
Recycling and reuse equipment manufacturers
*Consulting and engineering services
*Brokers
*Transporters

Types of Information to be Obtained

The recommended methodology is consistent with the following priorities which NERC established for the types of information to obtain in the study:

> *First Priority — Obtain for each category of recycling, reuse and support business the data necessary to document industry size: number of firms, total throughput recovered by material, total employment, total wages, total sales and value added.*

> *Second Priority — Obtain the data required to calculate total economic impacts in a standardized manner at the local and regional level, and provide guidance to assist in applying models.*

> *Third Priority — Obtain all other economic information wherever possible.*

The methodology is intended to obtain first- and second priority information for all categories of recycling processing and manufacture, most reuse business categories and for equipment manufacturers. To reduce costs while targeting resources to value-adding economic activities, data collection for the recycling collection and support business categories is limited largely to compilation of existing data. Depending on resource availability, detailed data on support business categories may also be developed for selected geographic regions in which economic models are applied. For most business categories it will be possible to obtain additional data beyond these top priorities. Due to concern over disclosure and accuracy, much of the information will be tabulated at the regional and national levels, and not at the state level.

Overview of the Recommended Methodology

The recommended methodology includes nine distinct information gathering steps, involving use of existing information sources, coordination with existing survey programs, developing databases of businesses and conducting new surveys, and applying economic models in selected geographic regions. Because the recommended methodology will need to be refined during implementation, NERC recommends it be implemented first at a regional level as Phase One of a national study. NERC estimates that implementing the study in this two-Phase approach will take at least 15 months to complete, that and consultant services will cost between $260,000 and $305,000. While the bulk of the study should be undertaken by a consulting team with specialized technical expertise, NERC recommends that an intermediary organization, such as EPA, the National Recycling Coalition or the Northeast Recycling Council, be responsible for securing resources as needed from states and other organizations, managing the consultant contract, assisting implementing and refining the methodology and coorindating discussions to secure information and assistance from trade associations, state agencies and other organizations. To be most effective, the study should be updated periodically and possibly expanded to include a broader range of information. The cost of replicating the study will likely be significantly reduced, since much of the estimated cost is for one-time refinement of the recommended methodology.