

5 WAYS TO PARTICIPATE IN RECYCLING

Give your garbage a new lease on life

RECYCLING IS THE RECOVERY OF DISCARDED MATERIALS TO BE USED AS RAW MATERIAL AGAIN

Most of us would probably say that we are willing to recycle. But still we end up throwing out recyclable materials because we don't know what to do with them. Here are five ways to help you get on the path to recycling:

1 Start by segregating recyclables at home. Separate metal, paper, glass and plastics into their own containers. Segregated waste is easier to collect for recycling. These also sell higher than when they are recovered from the dumpsite by scavengers because these are "cleaner" and not yet stained by garbage. For example, at the Rodriguez landfill in Montalban, Rizal, scavenged tin cans sell for P4 per kilo compared with P5.50 to P6 per kilo outside. Hazardous wastes such as used car batteries, ink cartridges, and used electronic appliances also need to be separated from the trash.

2 Give or sell recyclables to a barangay collector, a materials recovery facility (MRF), or a neighborhood junkshop. Barangay collectors, traditionally known as the "bote - dyaryo" (glass bottle - newspaper) collectors, gather recyclable materials from house to house. Now they have a more contemporary term: Eco-Aides. They usually push a cart or drive a bike with a sidecar. If you can't find the collectors in your neighborhood, you can deliver recyclable materials directly to a Materials Recovery Facility (MRF), a site or building where collected materials are stored until they are sold or processed. Ask your barangay officials if you have an MRF. If your barangay has no MRF you can bring recyclable materials directly to a junkshop. But not all wastes should be delivered to junkshops. Those containing hazardous materials should be delivered to recycling companies who can process them safely. (See directory in page 22 for a list of junkshops and recycling companies within or near Metro Manila)

3 Bring your recyclables to a collection event or waste market. The Philippine



ECO-AIDES COLLECT PLASTIC BOTTLES FOR RECYCLING

Business for the Environment (PBE) organizes **Recyclables Collections Event (RCE)** and Waste Markets. The annual Recyclables Collection Event (RCE) is a one-day collection event for recyclable materials usually held around "Earth Day" week in residential subdivisions or open parking lots. Here recyclables are redeemed for cash on the spot. **Waste Markets** are regular collection events for recyclable materials held on a monthly/weekly basis in malls or commercial shopping areas. It offers individuals and institutional waste generators a convenient and accessible place for the following activities:

- **Waste trading** - scrap papers can be traded for new paper or tissue paper while empty inks and toners can be traded for remanufactured inks and toners
- **Waste buying** - non-traditional recyclable materials such as used lead acid batteries, used electronic/electrical equipment, empty inks and toners, tin or aluminum cans, PET bottles and used papers and cartons can be redeemed for cash
- **Drop-off area** - used mobile phones, mobile phone batteries and polystyrene (styrofoam) can be collected here for recycling by legitimate recyclers
- **Used oil registration** - generators of used industrial and engine oil can inquire or register directly with the treater/transporter of hazardous waste

The PBE in coordination with the Department of Environment and Natural Resources and SM Supermalls are holding Waste Markets in SM Shopping Malls around the country from April to October. For inquiries on the Waste Market

Why recycle?

- You can reduce the waste that goes to dumps or landfills. About 45 percent of the total solid waste generated by households in Metro Manila can be re-used or recycled, according to a Waste Analysis and Characterization Survey done by the Asian Development Bank in 2003.

- You can help save the government money. Local governments in Metro Manila spend P3.8 billion annually for garbage collection. If recyclables and biodegradables are segregated at the source and do not end up in dumpsites, P3.61 billion will be saved. This amount can be diverted for other projects, such as schools and roads.
- You can protect other people's health. Electronic waste such as old personal computers can contain 1.5kg to 2kg of lead compounds and small amounts of mercury and arsenic. These can pollute the environment and cause serious health problems, such as increased blood pressure, fertility problems, nerve disorders, and muscle and joint pains. Bringing hazardous wastes to the proper recycling facilities will ensure that people aren't exposed to these toxic substances.

- You can earn extra income. Recycling companies buy waste that they can process and sell as raw materials to manufacturers. For example, a kilo of aluminum cans can sell for up to P55, while used laser toners can sell for up to P250 each.

- It is required by the law. The recovery of recyclable materials is part of the provisions of RA 9003, or the Ecological Solid Waste Management Act, enacted in 2001.

SOURCE: "SOLID WASTE MANAGEMENT MADE EASY: A DO-IT-YOURSELF GUIDE TO A COMMUNITY-BASED SOLID WASTE MANAGEMENT PROGRAMME" PUBLISHED BY UNDP/DENR/NSWMC

schedules, call Nancy Pilien of the PBE at +632 635-2650 or 635-2531.

4 Go through a waste exchange. This process encourages the exchange of waste of one industry with another industry for re-use or recycling. It aims to reduce the environmental impacts of industrial waste disposal and generate economic returns through the promotion of resource recovery from industrial waste. It is also an opportunity for companies, trade associations, and chambers of commerce to demonstrate environmental responsibility and accountability.

An example of this is the **Industry Waste Exchange Program (IWEP)** managed by the Philippine Business for the Environment since 1994. IWEP maintains a database of waste generators and waste buyers/recyclers that can be potentially matched. Examples of successful waste exchanges are glass cullets used for remanufacture of glass; used engine oil converted into two-stroke engine (2T) oil; and used solvents processed and used as degreaser.

Those who can benefit from the waste exchange are: companies or groups who want to reduce raw material costs or have surplus products/ off-spec or obsolete manufactured products; companies or groups who want to test the marketability of by-products; local governments and recycling networks looking for better market outlets and uses for potentially useful waste; and businesses, entrepreneurs, and investors who want to explore new markets. For inquiries on IWEP, call Nancy Pilien of the PBE at +632 6352650 or 6352531.

5 Start your own recycling business. Recycled products can become a source of income. A good example is the KILUS Multipurpose Environmental Cooperative, an all-women cooperative in Barangay Ugong, Pasig City, Metro Manila which turns discarded juice doypacks into bags, home furnishings, footwear, and accessories. What started as a small livelihood project for the cooperative's members has now grown into a successful export business, with the products being sold in countries such as Japan, USA, Canada, Belgium, Germany and Australia. They not only keep the juice packs away from the landfills, they also produce functional, stylish products that create a strong environmentally-friendly fashion statement. You can visit the KILUS Cooperative at 36 C. Santos St., Ugong, Pasig City, Metro Manila or contact them at +632 6712834, or at www.kilus.org. ■

GUIDE TO RECYCLABLE MATERIALS

*prices (except for glass) are based on the Philippine Business for the Environment's Waste Market on April 2007



PAPER

About 12 percent of Metro Manila's solid waste is paper. Unlike metal or glass, paper can only be recycled five to seven times before the wood fibers become too short and brittle to be made into new paper. Some types are harder to recycle than others. Papers that are waxed, pasted, gummed, or coated with plastic or aluminum foil are usually not recycled because the process is too expensive.

How much it sells for:

White paper (used bond paper, computer paper, used notebooks) - P8/kg
Newsprint (newspapers and magazines) - P5.50/kg
Cardboard boxes - P2.50 - 3.50/kg
Mixed paper - P1/kg

How to prepare for recycling:

Sort the paper according to type: white paper (bond paper), newspapers, cardboard, and mixed or colored paper. Keep it dry and free from contaminants such as food, plastic, metal and other trash, as contaminated paper cannot be recycled.

How it is recycled:

The used paper is repulped, or broken down into smaller pieces and mixed with water. The pulp is then passed through a screen and cleaned to remove contaminants. It is then deinked, refined, bleached and color stripped. After this it is mixed with virgin pulp to make new paper.

Products:

Most recovered paper is recycled back into paper and paperboard products. Recovered paper is generally recycled into a grade similar to, or of lower quality than, the grade of the original

product. For example, old corrugated boxes are used to make new recycled corrugated boxes. Recovered printing and writing paper can be used to make new recycled copy paper.

Recycled pulp can be used in a variety of other products, such as egg cartons, fruit trays, ceiling and wall insulation, paint filler, and roofing.

What is saved:

Producing recycled paper consumes between 28 to 70 percent less energy and uses less water than producing virgin paper. A ton of paper made from recycled fibers instead of virgin fibers conserves: 7,000 gallons of water, 17 to 31 trees, and 4,000 KWh of electricity.

GLASS

Glass constitutes 3 percent of the solid waste produced in Metro Manila. Unlike paper, glass jars and bottles can be recycled over and over again. The glass doesn't wear out.

How much it sells for:

Softdrink bottles - P45-P60/case
Assorted bottles - P0.75-P2/pc

How to prepare for recycling:

Remove the lids or caps of glass jars and bottles and rinse them with water. Segregate them by color. Not all glass products are recyclable. Don't mix light bulbs, ceramics, glass mirrors, windowpanes, and dishes with glass jars and bottles as they are not made of the same materials.

How it is recycled:

Used glass is melted, formed and annealed to make new glass.

Products:

Used glass is made into new glass jars and bottles or into other glass products such as fiberglass insulation.

What is saved:

Recycled glass uses 40 percent less energy than making products from all new materials. It saves energy because crushed glass, called cullet, melts at a lower temperature than the raw materials (sand, soda ash, and limestone) used to make new glass.



PLASTICS

Plastics account for 25 percent of Metro Manila's solid waste. It is the most visible type of solid waste and takes several hundred years before it breaks down at the landfill. But most plastics can be recycled, with Polyethylene Terephthalate (PET) and High Density Polyethylene (HDPE) being the most commonly recycled.

How much it sells for:

PET bottles - P15/kg
Disposable cups - P10/kg
Plastic gallons - P8/kg
Assorted plastics - P5/kg

How to prepare for recycling:

Wash plastic containers and squash if possible. Sort the plastics according to type, by checking the resin identification code (arrows forming a triangular shape with a number in the middle) to learn what kind of plastic it is. The following is the complete list of codes:



PET Polyethylene Terephthalate
Mineral water and beverage bottles, mouthwash bottles



HDPE High Density Polyethylene
Milk jugs, trash bags, detergent bottles.



PVC Polyvinyl Chloride
Cooking oil bottles, food trays, cling film



LDPE Low Density Polyethylene
Grocery bags, produce bags, food wrap, bread bags



PP Polypropylene
Yogurt containers, shampoo bottles, straws, margarine tubs, diapers, microwaveable meal trays



PS Polystyrene
Hot beverage cups, take-home boxes, egg cartons, meat trays, CD cases, protective packaging for electronic goods and toys



OTHER
All other types of plastics or packaging made from more than one type of plastic (example: melamine)

How it is recycled:

Plastics are washed, chopped into flakes, and fed into an extruder, where heat and pressure melt the plastic. The molten plastic is then formed into strands, which are then chopped into uniform pellets. These plastic pellets are then sold to manufacturing companies who can use these as raw material for new products.

Products:

The wide range of products made from recycled plastic include: polyethylene bin liners and plastic bags; PVC sewer pipes, flooring and window frames; building insulation boards; video and compact disc cassette cases; fencing and garden furniture; fleeces; fibre filling for sleeping bags and duvets; and a variety of office accessories.

What is saved:

Recycling plastic conserves non-renewable fossil fuels (plastic production uses eight percent of the world's oil production); reduces consumption of energy; reduces amounts of solid waste going to landfill; and reduces emissions of carbon-dioxide (CO₂), nitrogen-oxide (NO) and sulphur-dioxide (SO₂).



METALS

Metals constitute five percent of waste in Metro Manila. All metals can be recycled, with aluminum and steel being the most common. Metals can be recycled indefinitely without losing any of their properties. Other metals such as copper, gold, silver and brass are rarely thrown into the trash because of their value.

How much it sells for:

Aluminum cans - P55/kg
Tin (steel) cans* - P3/kg

How to prepare for recycling:

Sort scrap metal into ferrous and nonferrous metals. Ferrous scrap is made of iron and steel. This can come from cars, household appliances, steel beams, railroad tracks, ships, or food packaging and other containers. Nonferrous scrap include aluminium (including foil and cans), copper, lead, zinc, nickel, titanium, cobalt, chromium, and precious metals. Although there is less nonferrous scrap than ferrous scrap, it is often worth more financially.

How it is recycled:

Steel and aluminum scrap are usually melted in a furnace and then formed into sheets. These are then used as raw materials for various products.

Products:

Aluminum cans are usually recycled into new aluminum cans. Recycled steel cans can be made into new cars, girders for buildings, or new food cans.

What is saved:

Steel and aluminum recycling is much more energy efficient and cost effective than primary production of these metals. Every ton of recycled steel packaging saves 1.5 tons of iron ore; 0.5 tons of coal; and 40 percent of the water and 75 percent of the energy needed to make steel from virgin material. Recycling aluminum, meanwhile, requires only 5 percent of the energy and produces only 5 percent of the CO₂ emissions of primary production.

