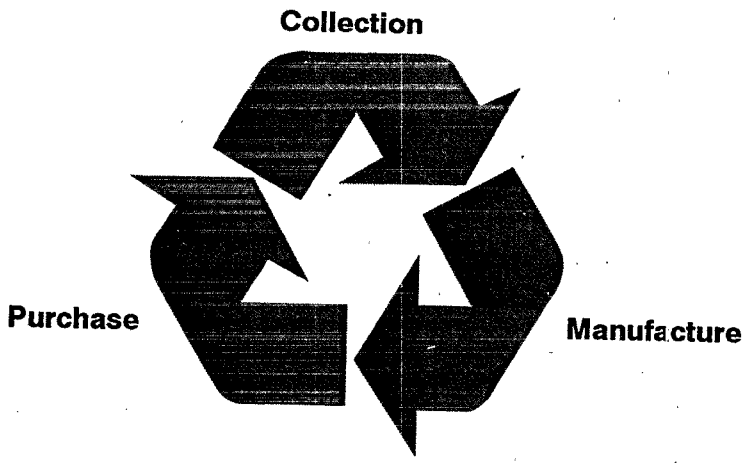
United States
Environmental Protection
Agency

EPA530-K-95-006
June 1995

Solid Waste and Emergency Response (5305W)

EPA

# Recycling Guide For Native American Nations

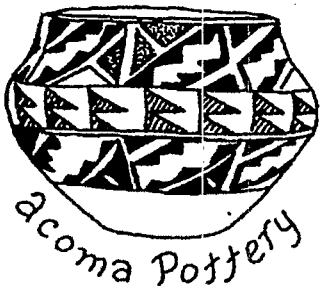



**Recycled/Recyclable** • Printed with Vegetable Oil Based Inks
on 100% Recycled Paper (50% Postconsumer)

This document was developed by U.S. EPA Region 9, Hazardous Waste Management Division, Solid Waste Section. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

## Why Recycle?

*Recycling is critical to our efforts to conserve the earth's natural resources. Recycling also reduces litter and the costs of solid waste disposal.*




This Acoma Pueblo pot tells an ancient story of recycling. Pueblo Indian women crafted clay pots that lasted for years of use. When the pots eventually broke, they were not thrown into a dump. The broken pots were crushed down to a fine clay powder. The powder was then soaked to soften it to a workable clay consistency. This recovered clay was used to make strong and beautiful new pots.

Today, we use many materials once, and then consider them waste. Like broken pots, these materials are actually precious resources. We are all learning that we cannot afford to continue throwing away resources in our garbage cans. Our task now is to develop again the age-old art of recycling.

**Recycling is defined as the collecting, manufacturing, and selling/buying of new products made from what once was thought of as waste.** The recycling symbol of chasing arrows on the cover represents the three components necessary to make a difference through recycling. This booklet describes several ways to participate in each facet of recycling: 1) collection, 2) manufacture, and 3) purchase. Everyone has a vital role to play.

## Setting up a Recycling Program

Before setting up a recycling program, a careful planning process should address these questions:

- What type of program best suits the community?
- What is the quantity and composition of recyclables in the community's waste stream?
- What will the program cost, and how can it be funded?
- Where can the collected recyclables be taken?
- Who will staff the recycling program?
- How can participation be encouraged?
- What experience can other recycling programs share?

---

There are three broad types of recycling programs: dropoff centers, buy-back centers, and curbside collection.

*Dropoff recycling centers* are set up so that individuals can deliver their recyclables to a designated collection site. Containers need to be well labeled and in a convenient location. Grocery stores or schools are often willing to participate by providing a convenient dropoff area in their parking lots. Regularly scheduled pickup and cleaning will be needed.

*Buy-back recycling centers* purchase recyclables, such as aluminum cans, glass, and other materials. They are commonly located at sites such as store parking lots for convenience.

*Curbside recycling programs* collect recyclables from a home or business that has agreed to place the recyclables into a designated recycling container. These programs often operate in concert with garbage collection.

## Materials To Collect

Many items in the waste stream can *technically* be recycled. Market demand varies widely for specific recyclables and may make some materials uneconomical to recycle. Materials typically collected include aluminum, cardboard, office paper, glass containers, steel cans, newsprint, yard trimmings, and certain types of plastics. Here are several factors to consider when determining which materials to collect:

**Markets**—Where will the recyclables go after collection? A reliable buyer must be available. Examples of possible buyers include recycling centers, processors, scrap yards, and solid waste haulers offering recycling services. Buyers may require a reliable minimum amount of material to make a contract profitable. They also typically require that the recyclables they purchase be delivered in a certain form (baled, crushed, color-sorted). These factors will influence the design of a recycling collection program.

The best way to ensure a constant market and reliable base price for your recyclable materials may be to enter into a cooperative marketing association with other tribes, towns, or counties nearby. As a member of a cooperative, you will be able to deliver larger quantities of materials to the market. Buyers usually prefer to sign contracts that guarantee larger supplies. A carefully written agreement and experienced management will help the cooperative succeed.

**Quantity and Composition of Waste Stream**—Over one-third of the waste in landfills is paper. Diverting paper alone (including newspaper and cardboard) for recycling can help extend landfill life and/or reduce disposal costs. Metals (including aluminum and steel cans) and glass comprise another 20 percent of solid waste.

**Price**—Prices for recyclables vary. Aluminum, white ledger paper (office paper), computer paper, and cardboard are higher priced items than plastics or low-grade papers. Costs such as transportation to market will affect prices paid for recyclables.

## Location, Containers, and Equipment

Recycling programs require temporary or permanent collection and storage sites. Keep in mind the following points when selecting a site for the recycling program:

**Siting**—A site that is centrally located within a community will encourage participation. To easily transport recyclables to market, look for a site accessible to highways or railroads. Zoning or land use approval may be needed for the collection site.

**Structures/Features**—The facility should include an enclosed area to protect recyclables, workers, and equipment from weather. (Aluminum, steel cans, and glass containers may be stored outside.) Renovating an existing building can save money. The facility should be designed for loading and unloading recyclables, including baled materials. A concrete pad reduces dust and mud. The site should be fenced to contain litter and provide security.

**Containers**—A wide variety of containers are available for every purpose: office paper collection, and curbside pickup or dropoff. When choosing containers for your program, keep in mind that they must be durable and easy to use, and should be designed to prevent contamination or mixing of different materials. If available, purchase containers that are made from recycled materials.

**Equipment**—A recycling center typically requires a baler and forklift at a minimum, although very small operations may not need them. A glass crusher helps densify glass containers for lower transportation costs to market. The equipment must be able to process materials appropriately for the buyer, who will set specifications for the materials you will deliver.

---

## Staffing the Program

Getting a recycling program off the ground requires planning and coordination. Whether the program is run by the tribal government, a local business, or a nonprofit organization, a well-trained staff is essential. The recycling program team should include an individual with operations management experience. Enthusiastic volunteer groups, guided by trained staff, can be invaluable for educational efforts and/or assistance during collection.

## Educating the Community

Instilling new habits takes time. The success of a recycling program will depend on early community involvement, followed by continuing educational efforts. Start by determining residents' interest in recycling and their concerns about how the recycling program will work. Be responsive to their input and provide clear information. Make the recycling program a source of community pride and involvement.

One of the best ways to ensure strong participation in the program is to introduce recycling to schools first. When children learn about recycling at school, they serve as recycling ambassadors, sharing what they have learned with their families and others in the community.

---

## More Ways To Reduce Waste

**Composting**—Composting is a way of recycling organic materials, such as yard clippings and food scraps. Through controlled decomposition, bacteria can transform the materials into a nutrient-rich soil supplement. The temperature of the compost must be raised long enough to kill weed seeds and pathogens. To decompose effectively, organic matter also needs aeration and time to mature.

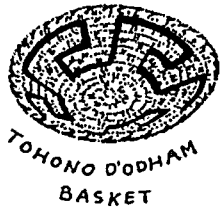
There are two ways to set up a tribal composting program, either of which would be a great addition to community recycling efforts. The first is to promote residential backyard composting. Under this type of program, composting demonstrations would be provided to the public. Composting bins could be offered as an encouragement to each household to compost its organic materials. Individuals will have less trash to dispose of and will gain a compost that improves the soil of their gardens.

The second type of program is to establish a community composting facility. Yard trimmings from residents would be collected or dropped off at the site. Factors to consider in selecting a site include convenience, odors, visual impact, dust, and noise. Well-trained staff will be needed to properly run the facility.

The compost produced can be used for landscaping projects in the community. If composition and nutrient content are controlled and documented, the compost could be sold commercially to farms, nurseries, or greenhouses. Compost that is contaminated with weed seeds, trash, or toxic compounds can be harmful to the soil, so monitoring is crucial.

**Waste Exchanges**—A waste exchange is a computer network or catalog that redirects unwanted materials to potential users. Most materials listed are used or excess manufacturing or construction materials. Organizations and individuals can usually list materials offered or wanted at no cost. These exchanges reduce disposal costs and allow others access to free or inexpensive materials. Many states and cities have established waste exchanges.

Another type of waste exchange is a local reuse center where individuals can donate excess or used materials that can then be used by schools, senior centers, or other nonprofit agencies. Donating or selling used items to secondhand stores is also a great way to reduce waste.




## Creating Recycling Jobs

Recycling can provide opportunities to protect your environment while also creating economic development. When recyclables are collected out of the waste stream, they must be cleaned, processed, and made into new products. Each step in the process adds economic value to the materials. Materials recovery facilities (MRFs) and composting facilities process materials for use in manufacturing or agriculture. These processors can create non-manufacturing jobs that do not require highly technical skills.

Recycling processors and manufacturers need not be large factories or multimillion-dollar businesses. In fact, many small businesses have found a niche in the marketplace and are thriving. These businesses rely on a work force that may include manufacturing jobs, maintenance workers, construction workers, planners, and engineers. By creating businesses that keep that value close to the tribe, one can ensure markets for a tribal recycling program and create jobs at the same time. Following are suggested steps to determine what types of recycling businesses are right for specific circumstances, as well as examples of small recycling businesses.

## Startup Steps

### 1. Educate and Involve the Community

Take advantage of opportunities to inform tribal leaders, the public, business leaders, and the media about the benefits of creating local end uses (manufacturing industries) for recyclables. Examples:

- General or business council meetings
- Economic development studies or planning efforts
- Public meetings concerning planning and economic development
- Community and school gatherings

### 2. Define the "Wasteshed" or Market Development Area

A reliable supply of recovered materials is essential for recycling manufacturing businesses. Recycling collection programs are sources of the necessary "raw materials." Factors influencing the supply of materials include:

- Population density
- Regional economic conditions
- Quantity/Quality of recyclable materials
- Proximity of competing markets

### 3. Conduct a Supply Analysis

Data on amounts and types of recoverable wastes in the area are important. For example, what volume of cardboard, aluminum, steel cans, glass, office paper, or newsprint is generated locally? An estimate may be obtained by conducting a waste stream analysis or by examining statistics from communities with similar population densities and economic characteristics.

### 4. Survey Local Business and Industry for Potential End-Uses

The goal of a local survey is to identify types of products manufactured in the area, raw materials currently used, types of packaging and modes of transportation used to ship local products, and costs of equipment modifications to allow substitution of recyclable materials. Tribal economic development offices or community colleges may be able to assist with development of a survey.

### 5. Set Criteria for Selecting a Product or Production Process

What types of manufacturing processes are feasible for the area? Establish basic criteria to help select business ventures for more detailed research and development. Examine the following aspects of potential manufacturing processes to ensure a good fit with your community:

- Startup capital requirements
- Water and energy needs
- Distance to markets
- Human resources requirements
- Labor pool availability and training needs
- Types and amounts of manufacturing wastes and access to disposal
- Regulatory and permitting issues
- Local land use factors

### 6. Research Your Business Venture

After selecting the most promising type(s) of production process, the focus shifts to determining a specific product(s) to manufacture. This research will aid in the preparation of a business plan, and should include:

- Information on markets, equipment, patents, and labor standards
- Market analysis to identify market niche and competitors
- Interviews with existing manufacturers
- Interviews with potential customers to determine preferences

### 7. Prepare a Business Plan

A business plan is the blueprint for building a business and is required by investors, funding agencies, and financial institutions. The information gathered for Steps 5 and 6 form the basis for the business plan.

### 8. Obtain Financing and Support for the Business Venture

Explore all private and federal, state, and local government sources for financing, such as:

- Small Business Administration loan programs.
- Bureau of Indian Affairs economic development grants or loans.
- Community development block grants.
- Special financing programs for rural and women- and minority-owned businesses.

- Industrial development bonds.
- Revolving loan funds.
- Partnerships with existing industries.

---

## Sample Recycling Manufacturing Businesses

A variety of companies manufacture recycled products. Here are some examples of small to medium-sized companies:

**Cascade Forest Products,** Arcata, CA—The company uses wood waste from area sawmills to produce packaged and bulk soil products. Cascade employs 30 people and is exploring opportunities to include residential yard materials.

**Michelson Packaging Company,** Yakima, WA—The company manufactures packaging for fresh fruits and vegetables from recycled newsprint. Over 400,000 produce pads are made per day, and Michelson employs between 18 and 27 people full-time.

**Rubber Products, Inc.,** Tampa, FL—Using tire buffing dust and scrap rubber, the company produces puncture-resistant floor tiles for golf clubhouses, skating rinks, and athletic weight rooms. Rubber Products employs 30 people full-time and produces 1,000 tiles per day.

**Wisconsin Plastic Drain Tile,** Madison, WI—The company manufactures pipe from plastic bottles. Employing 17 people, Wisconsin Plastic Drain Tile produces 15 tons of pipe per day for the construction industry.

*Sample businesses and startup steps reprinted by permission of Gainer & Associates, 1630 27th Street, Arcata, CA 95521.*

# Buying Recycled Closes the Recycling Loop

Buying recycled sends a message to industry that recycled products are in demand, helping to ensure that recyclable materials will not be wasted. When recyclable materials become the raw materials of industry, they reduce the need for mineral extraction and timber harvesting. Less water and energy are typically required to make products from existing (recovered) materials than from virgin materials.

When you buy recycled products, you save vital natural resources and help stimulate economic growth through environmentally preferable technologies. Each individual purchase contributes to resource conservation, as well as to stable markets for the recyclables many communities collect. The following information on buying recycled products assists tribal governments, organizations, and individuals in making a commitment to buy recycled.

## Recycled Products Are Everywhere

Many of the products we use daily are made from recycled materials. Cereal boxes, soda bottles, paint, tissue paper and napkins, copier paper, and floor coverings are examples of products that can be made from recycled materials. If you purchase these items, you may already be buying recycled. Recycled materials also turn up in products that are very different from their original uses, such as carpet made from plastic soda bottles and asphalt that incorporates recycled glass.

## Setting up a Buy-Recycled Program

Tribal governments, which purchase everything from office paper to construction materials, can set a positive example for their members by instituting a buy-recycled program. An easy first step is to try to "think recycled" whenever making a purchase. Ask office supply stores or catalogs to carry recycled products if they do not already. Look for brands that minimize packaging or that can be re-used. For tribes interested in a formal buy-recycled program, here are the key elements:

### 1. Review Specifications

Tribal purchasing officials can review product and service specifications or policies to identify and eliminate any provisions that require the use of virgin products, or that exclude the use of recycled products.

**2. Establish Content Standards**

Many government agencies have established minimum recycled content standards that apply to their own purchases of certain goods and materials. Guidelines may vary on the minimum percentage of recycled materials required in specific products. For example, President Clinton has issued an Executive Order requiring that paper purchased by federal agencies contain a minimum of 20 percent postconsumer recycled content.

**3. Give Preference to Recycled Products**

With current technologies and scales of production, some recycled products cost more than their nonrecycled competitors. Eventually, prices for all recycled products are expected to be competitive with products made from virgin materials. Until then, recycling can be supported with price preferences for recycled products. A typical price preference might allow for the purchase of recycled products at 5 to 10 percent higher than the price of comparable virgin products. Another good way to support recycling is to require printers and contractors to submit bids, proposals, and reports on recycled paper, printed on both sides, with removable bindings or staples.

## Definitions

Here is a guide to common recycling terms. Some of these terms appear on product labeling to denote recycled content.

**Minimum Content Standard**—Purchasing standard specifying the percentage of recycled material that purchased products must contain.

**Postconsumer**—Indicates that a product is made from materials that were used by the consumer and discarded for recycling.

**Preconsumer/Postindustrial**—Indicates that a product is manufactured from industrial waste materials.

**Recovered Material**—Materials diverted from municipal solid waste; does not include byproducts from original manufacturing processes.

**Recyclable**—This does not denote a product made from recycled materials. It simply means that the package or product may be recyclable.

**Recycled**—Indicates that a product is manufactured with recovered materials (not necessarily postconsumer).

**RCRA Guidelines**—Guidelines for federal purchasing outlined in the Resource Conservation and Recovery Act of 1976. The guidelines specify minimum content standards for paper and other products. While not mandatory, the RCRA guidelines may be useful tools in the development of a buy-recycled program.

**Virgin Material**—Indicates that a product is manufactured from natural resources such as trees, petroleum, minerals, or sand. These products contain no recovered materials.

NOTE: These terms can be used in a misleading manner. Products labeled "recycled" may not contain any postconsumer content. The terms often refer to materials used in packaging rather than in the actual product.

---

## Finding Help: Additional Resources

**Administration for Native Americans (ANA) (202) 690-7776**—ANA provides competitive grants to support social and economic development projects.

**Bureau of Indian Affairs (BIA) (202) 208-5326**—BIA's Economic Development Office provides grants, loans, and small business development assistance.

**Buy Recycled Business Alliance (202) 625-6406**—A service of the National Recycling Coalition. Member services include technical assistance and peer counseling on buying recycled. Any organization may join at no cost.

**Composting Council (703) 739-2401**—A national association that promotes composting and serves as an information clearinghouse. The Council can provide information on setting up community composting programs.

**Cooperative Marketing Network (402) 444-4188**—The Network can provide contacts at regional cooperative marketing associations across the country. They publish a free newsletter with information on the cooperative marketing of recyclables.

**Foundations**—Numerous private foundations award grants for a variety of community development projects. The Foundation Center, (212) 620-4230, provides free access to foundation directories at many public libraries.

**Indian Health Service (IHS)**—The IHS Environmental Health Program is available to provide technical assistance in setting up recycling programs. Contact your local IHS office.

**InterTribal Councils**—If your tribe is part of an InterTribal Council, the Council may be able to provide you with information on establishing a recycling program or forming linkages with other interested tribes.

**Keep America Beautiful (203) 323-8987**—A national nonprofit organization with extensive recycling educational materials available.

**National Recycling Coalition (NRC) (202) 625-6406**—NRC is a nonprofit alliance of recycling organizations that provides technical education, increases public awareness, and carries out legislative advocacy.

**National Development Council (NDC) (212) 682-1106**—NDC is a private nonprofit corporation that assists small businesses in packaging loan applications.

**Recycled Product Guide (800) 267-0707**—Over 3,500 certified recycled product listings are featured in the guide, including manufacturers, distributors, and retailers. Annual subscription rates vary.

**RecycleLine (800) 233-9923**—A national on-line database providing information on recycled products. Rates vary.

**Rural Development Administration/Farmers Home Administration**—RDA/FmHA administers three programs for rural low-income communities that may assist in setting up collection programs or recycling enterprises:

- Community Facilities Program (202) 720-1500
- Rural Business Enterprise Grant Program (202) 720-1500
- Business and Industry Guaranteed Loan Program (202) 690-4100

**Small Business Administration (SBA) (800) 827-5722**—SBA offers business development assistance and guarantees small business loans from private lenders. SBA's Small Business Answer Desk provides information on training and other services offered.

**State Recycling Offices**—Most states have a recycling office or hotline located in their environmental department. Check with individual states on the types of assistance they could offer in establishing recycling programs.

**State Departments of Commerce**—All states have a commerce or economic development office, which may administer small business loan programs. Check with individual states on the types of assistance they could offer in establishing recycled product enterprises.

**Tribal Economic Development Offices**—Some tribes may be able to provide business development assistance to their members.

**U.S. Department of Housing and Urban Development (202) 708-1422**—HUD's Indian Program administers the Community Development Block Grant Program, which provides funds for community infrastructure projects.

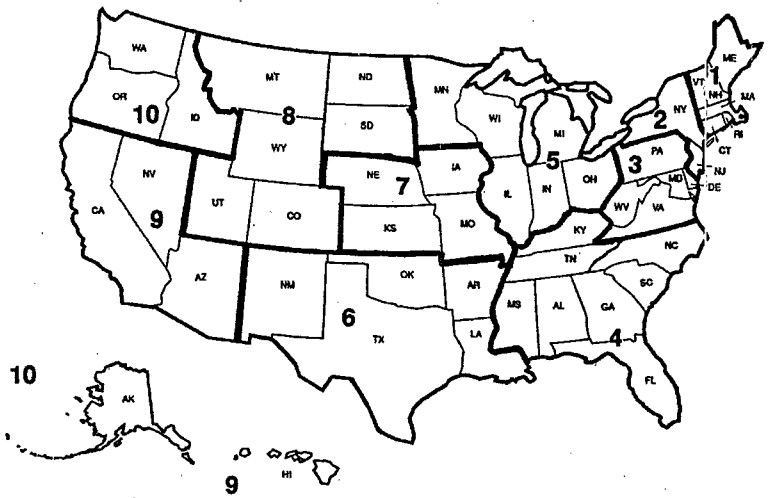
**U.S. Environmental Protection Agency**—Contact the Solid Waste Program of your EPA regional office, listed on the next two pages. The staff can provide general information on setting up recycling programs, as well as educational materials for use in the community.

You can also call EPA's RCRA Hotline for more information or to order educational materials. Callers within the Washington Metropolitan Area must dial (703) 412-9810 or TDD (703) 412-3323 (hearing impaired). Long-distance callers may call toll-free, (800) 424-9346 or TDD (800) 553-7672. The RCRA Hotline is open Monday through Friday, 8:30 a.m. to 7:30 p.m., Eastern Standard Time.

Copies of documents applicable to rulemakings may be obtained by writing: RCRA Information Center (RIC), U.S. Environmental Protection Agency, Office of Solid Waste (5305W), 401 M Street, SW., Washington, DC 20460.

**Waste Haulers, Recycling Processors, and/or Scrap Yards**—Check the yellow pages of area phone books for companies that buy recyclable materials.

## EPA Regional Contacts




U.S. EPA Region 1
Waste Management Division
(HEE-CAN 6)
JFK Federal Building
Boston, MA 02203
(617) 565-3927

U.S. EPA Region 2
Air & Waste Management
Division (2AWM-SW)
26 Federal Plaza
New York, NY 10278
(212) 264-3384

U.S. EPA Region 3
RCRA Solid Waste Program
(3HW53)
841 Chestnut Building
Philadelphia, PA 19107
(215) 597-7936

U.S. EPA Region 4
Waste Management Division
(4WD-RCRA-FF)
345 Courtland Street, NE.
Atlanta, GA 30365
(404) 347-2091

U.S. EPA Region 5
Waste Management Division
(H-7J)
77 West Jackson Boulevard
Chicago, IL 60604
(312) 886-7599

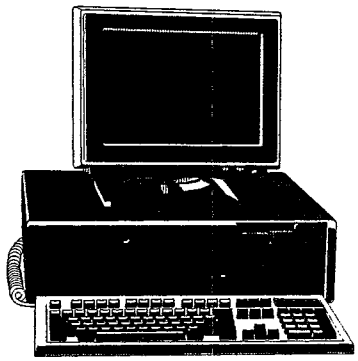
U.S. EPA Region 6
RCRA Programs Branch
First Interstate Bank Tower
1445 Ross Avenue, Suite 1200
Dallas, TX 75202
(214) 655-6752

U.S. EPA Region 7
Waste Management Division
726 Minnesota Avenue
Kansas City, KS 66101
(913) 551-7817

U.S. EPA Region 8
Hazardous Waste Management
Branch (HWM-WM)
999 18th Street, Suite 500
Denver, CO 80202
(303) 293-1818

U.S. EPA Region 9
Hazardous Waste Management
Division (H-3-1)
75 Hawthorne Street
San Francisco, CA 94105
(415) 744-2074

U.S. EPA Region 10
Hazardous Waste Division
(HW-114)
1200 Sixth Avenue
Seattle, WA 98101
(206) 553-6639



This document also is available free of charge on the Internet. To access, go through the EPA Public Access Server to gopher.epa.gov. From the main menu, go to "EPA Offices and Regions." The document can be found under the "Office of Solid Waste" directory.

☆U.S. GOVERNMENT PRINTING OFFICE: 1995-0-623-570

U.S. Environmental Protection Agency
Office of Solid Waste (5305W)
401 M Street, SW.
Washington, DC 20460

Official Business, Penalty for Private Use $300