



# Green Business

Resource Conservation  
&  
Pollution Prevention

## Application & Checklist

(General/Manufacturing)

Business Name \_\_\_\_\_  
 Contact \_\_\_\_\_  
 Phone \_\_\_\_\_  
 Address \_\_\_\_\_  
 \_\_\_\_\_  
 Email \_\_\_\_\_  
 Web \_\_\_\_\_

### Common Questions

#### Why should my business get certified as a Green Business?

- Saving energy, water and raw materials saves you money. Sending less trash to the landfill saves you money, too.
- Developing a positive, proactive relationship with local compliance inspectors can help you avoid liability, fines and other sanctions.
- The Program promotes Green Businesses to the public and other businesses (again, for free)!
- Your company's community image is enhanced through Green Business certification.
- Your employees will enjoy a safer workplace and will have one more reason to take pride in working for you.
- The Green Business Program offers you free, convenient, timesaving assistance.

#### Do I get credit for the good things I'm already doing?

Yes! In fact, your company may already qualify. These Standards are designed to fit most businesses, **but** if certain measures are not applicable or feasible for your facility and operations, you may request an exemption or demonstrate alternative measures.

#### Do I have to do everything on the checklist to become a Green Business?

No, there are many ways to qualify. You must meet the minimum standards in each category. Beyond that, you may use the checklist to identify "next steps" to becoming even greener.

#### What if I haven't had an energy, water or solid waste audit already?

The Green Business Program can arrange an audit for you as part of your certification.

#### How do I get started?

Read through the checklist and try to check all boxes that apply. Call XXXXXXXXXXXXXXXXXXXX, Green Business Coordinator, at XXXXXXXXXXXX with any questions. Mail to: XXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXX

#### Is there a fee to be certified as a Green Business?

No, Green Business certification is free!

**Re-certification:** Your certification as a Green Business will be good for **three years**. We strongly encourage continuous improvement, and, when it's time to recertify, we will ask you to show us what additional measure(s) you have implemented within those three years.

# General Standards for All Businesses

## Certification

To be certified a Green Business you must:

- ✓ Commit to the Program by adopting the Green Business Pledge.
- ✓ Comply with all environmental regulations applicable to your business (see your Green Business Coordinator).
- ✓ Implement measures to prevent pollution & conserve resources. This checklist walks you through this step!
- ✓ Participate in site visits to verify that your business meets the above standards.

**Green Businesses** practicing resource efficiency are assuming stewardship for the Earth and its resources, with the goals of achieving a successful business operation, a healthy bottom line, and sustenance of the environment and its inhabitants. A Green Business not only conserves resources but also educates employees and customers about resource conservation.

## Measures

The following general measures are required for all businesses:

- Track & post rates of water and energy usage and solid and hazardous waste generation.
- Provide 3 on-going incentives or training opportunities to encourage management and employee participation in the Green Business Program. For example, incorporate Green Business into:
  - Staff meeting discussions
  - Performance appraisals, job descriptions, training programs, employee orientations
  - Employee reference materials

- Company newsletter or bulletins
- Company suggestion and reward programs
- Inform your customers about your business' environmental efforts and what you are doing to meet the green business standards. For example:
  - Post the Green Business logo, certification and pledge in a visible location.
  - Post steps you are taking to be a Green Business.
  - Offer tours that highlight your Green Business successes.
  - Offer customers "green" service or amenities options.
  - Highlight your Green Business efforts and/or certification on your website, and link it to the GBP home page.
  - Introduce another business (in any business sector) to the Green Business Program, encourage them to participate, and provide their contact information to your GBP coordinator.

### **GREEN NOTE:**

**Going Green Counters Climate Change**  
*Climate Change results from increases in greenhouse gases, like carbon dioxide and methane, trapping heat that would otherwise escape the atmosphere. You can reduce this build-up (and your carbon footprint) by being green! Our checklist has many climate-friendly measures, such as:*

- ◆ **Conserve energy** with fluorescent lights and Energy Star equipment.
- ◆ **Reduce waste** at the landfill (and methane gas emissions)—recycle, compost and buy products with recycled content.
- ◆ **Conserve water** (and the energy to deliver it) with low-flow toilets and drought tolerant plants.
- ◆ **Invest in renewable energy** with renewable energy credits and solar panels.
- ◆ **Conserve fuel** by taking public transit, your bike or a high MPG vehicle.

# Energy Conservation

## **To be a Green Business:**

1. Have your energy provider conduct a free audit of your facility's energy use to provide you with specific suggestions and resources to conserve energy. Review it annually to identify additional changes to improve energy savings.

2. Complete regularly scheduled maintenance on your HVAC (heating, ventilation and air conditioning) and refrigeration systems.

- ◆ Clean permanent filters with mild detergents every two months (change replaceable filters every 2 months).
- ◆ Check entire system each year for coolant and air leaks, clogs, and obstructions of air intake and vents.
- ◆ Keep condenser coils free of dust and lint.
- ◆ Keep evaporator coils free of excessive frost.

(In MS Word use Format/Buttons to indicate the measures you are implementing and you can type in any measures you're implementing that aren't listed)

**3. Implement Seven (7) measures**, with at least 3 measures coming from Equipment/Facility Improvements. The other 4 measures may come from either Equipment/Facility Improvements or Employee Practices. *If more than 60% of your energy use is in processes or industrial uses, at least one of your measures must reduce use in that area.*

## **Lighting Measures**

### *Equipment/Facility Improvements:*

REQUIRED: Replace incandescent bulbs with one of the following (required):

- Compact fluorescents (usually most appropriate)
- Low voltage track lighting.
- Halogen par lamps

REQUIRED: Increase efficiency of fluorescent fixtures:

- Install T-8 or other more efficient lamps. Replace magnetic ballasts with electronic ballasts
- Reduce fixtures after putting in higher efficiency lighting.
- Delamp and install optical reflectors or diffusers

Improve exit sign energy efficiency, use:

- LED exit signs
- Compact fluorescents in exit signs
- Electroluminescent exit signs.

- Install lighting output controls such as:
- Occupancy sensors
- Bypass/delay timers
- Photocell
- Time clock.

### **Green Notes – Lighting**

According to the World Resources Institute, lighting accounts for about 20% of all the electricity used in America (15% commercial) and 10% of all CO<sub>2</sub> emissions.

Replacing one incandescent bulb with a compact fluorescent will save about 582 kilowatts over the life of the bulb.

EPA "Green Lights" participants are using lighting options to cut their bills in half – and earn an average 58% return on investment.

### *Employee Practices:*

- Use "task" lighting only where needed, rather than lighting up an entire area.
- Rearrange to take advantage of areas with natural sunlight, and design for increased natural lighting when remodeling.
- Remove lamps where you have more lighting than needed, or if a double switch exists, try using only half the light.
- Always turn off lights when leaving.

### **Consider Outdoor Lighting Changes First...**

Outdoor lighting provides an excellent opportunity for energy conservation as it often remains on for long hours. By using efficient lights (e.g. compact fluorescents) and timer controls your business can reduce wasted energy and your monthly bill. This measure alone could reduce energy use by 15%.

- Disconnect unused ballasts in delamped fixtures.
- Replace burned out lamps quickly to avoid ballast damage.
- Have diffusers dusted annually to maintain optimum light output.

## **(HVAC) Heating, Ventilation & Air Conditioning Systems Measures**

### *Equipment/Facility Improvements:*

HVAC units

- Install ceiling fans.
- Apply window film to reduce solar heat gain.
- Install an outside air intake for compressors located in the boiler room.
- Shade sun-exposed windows and walls during the cooling season: Use awnings, sun screens, shade trees, shrubbery.
- Replace or supplement an A/C system with an evaporative cooler.
- Install a thermal ice storage system to reduce peak demand.

- o Install economizers on A/C to increase air circulation.
- o Replace single or package A/C unit with one with a greater Energy Efficient Rating (EER).
- o Convert electric heating system to a natural gas system.

Install and use HVAC output controls, such as:

- o Bypass timers
- o Time clocks
- o Implement a full Energy Management System (EMS) for lighting, equipment and HVAC.

**Green Notes – HVAC**

Find energy saving tips at the Energy Efficiency & Renewable Energy Network website: [www.eren.doe.gov/energytips/](http://www.eren.doe.gov/energytips/)

**Insulation Measures**

- o Install/increase insulation in your building.
- o Insulate heating and cooling ducts, especially if they pass through an area which is not heated or cooled.
- o Replace inefficient or broken windows with double pane energy-efficient windows.
- o Install transparent swinging doors or plastic-strip doors between work areas that require different room temperatures.
- o Use weatherizing and caulking to seal windows and doors.

**Green Notes – HVAC**

A simple tune-up can increase the energy efficiency of your furnace by 5% and you can save up to 10% by insulating and tightening up ventilation ducts.  
Ceiling fans use 98% less energy than central A/C units.  
Heating with natural gas instead of electricity can be 40% - 56% more efficient.

**Employee Practices:**

- o Set thermostat at 68° for heating and 78° for cooling, use timing devices to turn system down after hours.
- o Use small fans and space heaters during off hours.
- o Close blinds and curtains (white will reflect) or turn on ceiling fans to reduce A/C load.
- o Provide shading for HVAC condenser.
- o Seal off unused areas; don't heat or cool them; block & insulate unneeded windows & other openings.
- o When repainting building exterior and roofs, choose light colors to reflect more sunlight.

**Office Equipment**

**Equipment/Facility Improvements:**

- o Select equipment with energy saving features (e.g. look for computers, copiers, printers, etc. with the Energy Star® logo).

- o Install and use hardware programs that save energy by automatically turning off idle monitors & printers.
- o In large computer rooms, capture the heat vented and reuse it for space heating.
- o Implement a full Energy Management System for lighting, equipment & HVAC (or simple "stand-alone" system for heavy energy using equipment).

**Employee Practices:**

- o Plug printers, copiers and appliances into a time switch to turn off after working hours.
- o Institute a formal policy to turn off equipment when possible.
- o Adjust controls for temperature, speed or other settings to reduce energy use.
- o Maintain equipment to provide optimum efficiency.
- o If available, use the standby mode on equipment (e.g. energy saver buttons on copiers).

**Green Notes - Office Equipment**

Energy use by office equipment is expected to grow by as much as 500% in the next decade.  
Energy Star® compliant monitors have power management features and consume up to 90% less energy. Screen savers don't save energy! Energy Star® copiers and fax machines can reduce their annual electricity costs by about 60% and 50% respectively. A single copier, computer & printer left on all weekend costs about \$21.50.

**Water Heating**

**Equipment/Facility Improvements:**

- o Convert electric hot water heaters to natural gas.
- o Insulate pipes and hot water heaters.
- o Install a heat recovery system for your hot water boiler or heater.
- o Use a solar water heater or preheater.

**Employee Practices:**

- o Check pilot light for proper adjustment.
- o Set hot water at 105° (unless the Health Dept. mandates minimum hot water temperatures).
- o Drain and flush water every 6 months to reduce solids and increase efficiency of heat transfer.
- o Install low-flow shower heads.

**Industrial Equipment**

**Equipment/Facility Improvements:**

- o Select replacement equipment for increased productivity and energy savings.
- o Replace existing motor with "high" or "premium" efficient motor.
- o Replace motor with a variable speed drive

rather than “throttling” (variable speed drives can reduce motor energy use by 10-70%).

- o Downsize oversized motors or replace a large motor with several small motors that can be run individually to meet smaller tasks (about 30% of motors operate at less than 50% of full load).
- o Choose a 220 volt electric motor over a 110 volt motor, it is both more powerful and more efficient.
- o Purchase a more efficient motor instead of rewinding an older one.
- o Air Compressors
- o Install an outside air intake – cool air takes less energy to compress.
- o Install engineered nozzles and fittings to reduce “waste” compressed air.

#### *Employee Practices:*

- o Shut off equipment when not in use, such as exhaust fan systems and air compressors.
- o Operate and modify machines for efficiency.
- o Adjust controls for temperature, speed or other settings that uses less energy.
- o Maintain equipment to provide optimum efficiency.
- o Sublet operations only used occasionally.
- o Fix leaks in air compressor hose connections, shut-off valves, pipe connections and flanges, in hoses and clamps, and in worn air cylinders, repair seals, or replace gaskets or hoses.

#### **Refrigeration**

- o Use a refrigerator with energy saving features (e.g. look for the EnergyStar logo.)
- o Set refrigerator temperature between 38° F and 42° F and freezer between 10° F and 20° F.

Properly maintain refrigeration system:

- o Clean your condenser and evaporator coils with a soft vacuum
- o Replace broken door gaskets.

#### **Other Energy Efficiency Measures**

*Equipment/Facility Improvements:*

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*Employee Practices:*

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#### **Green Notes - Motors**

Motors account for up to 75% of the total electricity costs in industrial facilities, and up to 50% of electricity costs in commercial sites.

Energy-efficient motors, as defined by the National Electric Manufacturers Association, are up to 10% more efficient than standard motors, may qualify for utility rebates, & have:

- longer motor life
- increased reliability
- less downtime
- better power factors
- run more quietly
- lower maintenance costs

#### **Glossary**

**Motion sensors.** Occupancy sensors are motion sensing devices that automatically turn on lights when motion is detected, and turn lights off when motion is not detected. The most appropriate application for occupancy sensors is in spaces where occupancy is infrequent or unpredictable, such as conference rooms, storage rooms or rest rooms.

**Rewinding motors:** There are two parts to a motor, the rotor and the stator. The stator is made up of winding coils. When you pull out the original coils to rewind the motor, you lose the close tolerance among coils, reducing efficiency by 5-7%. In addition, it is difficult to add larger windings to a motor, making it hard to upgrade. The cost of rewinding a motor is 60% of the cost of a new premium efficient motor. Investing in a new efficient motor allows you to upgrade, increase energy efficiency & save money on your energy bill.

**Subcooler:** A subcooler is an additional heat exchanger that cools refrigerant after it passes through the condenser on a HVAC or refrigeration unit.

**T-8 lamps:** The smaller diameter “T-8” fluorescent tube lamp can increase lumens per watt to over 100, as opposed to the current standard of 60. By substituting these new systems, offices can improve their lighting quality & energy costs.

*Definitions were provided by US EPA publication 430-K-93-001, pgs. 8-9 and PG&E commercial auditor Kristen Millette.*

# Water Conservation

## To be a Green Business:

1. Have your water company conduct a free water use survey of your facility. Review it annually to identify additional ways to improve water use efficiency.

2. Complete all of these water conservation measures that are applicable to your business:

- o Understand your water bill and review it monthly for indications of leaks, spikes or other problems.
- o Learn how to read your water meter.
- o Regularly check for and repair all leaks in your facility (toilet leaks can be detected in tank toilets with leak detecting tablets, which may be available from your local water company).
- o Replace pre-1992 toilets with 1.6 gallon per flush toilets (or lower).
- o Install low flow aerators (2.2 gpm) in faucets and low flow showerheads (2.5 gpm). Your water utility may provide these to you free of charge.
- o Use "dry sweeping", water efficient "spray brooms", or low flow (<3 gpm) spray nozzles rather than a garden hose to wash down concrete or asphalt surfaces.
- o Test irrigation sprinklers 4 times per year to ensure proper operation and coverage.
- o Repair all broken or defective sprinkler heads/nozzles, lines & valves
- o Adjust sprinklers for proper coverage
- o Adjust sprinkler times and/or durations according to seasons, water during non-daylight hours (generally before 7 am or after 9 pm).

[Your local water agency/utility can help you establish an annual water "budget" and irrigation schedule based on the evapotranspiration (ET) of your landscaped area.] Check with your water company about financial incentives.

(In MS Word use Format/Buttons to indicate the measures you are implementing and you can type in any measures you're implementing that aren't listed)

3. Implement at least three (3) of the water conservation measures listed below.

Note: If at least 60% of your water use is in one area (e.g., facility, landscape, cooling tower or industrial/ process use), then at least one of your measures must address that area. Some measures may not apply to your business.

## FACILITIES MEASURES

- o Replace flush mechanism in urinals with 1.0 gallon per flush diaphragms (or install new waterless varieties).
- o Replace water-cooled ice machines with an air-cooled unit, or retrofit with an air-cooled condenser.

- o Go beyond 1.6 gallon per flush toilets! When replacing older toilets, install High Efficiency Toilets that use 1.3 gallons or less per flush.
- o Install self-closing faucets (infrared, spring loaded, etc.).
- o Install an ENERGY STAR labeled washing machine to replace older, less efficient equipment. Your water utility may offer rebates for buying these machines.
- o Change window cleaning schedule from "periodic" to "as required".
- o Other \_\_\_\_\_

### Green Notes

A faucet with a slow leak can waste 100 gallons of water a day or more. A single leaky toilet can waste as much as 1000 gallons of water a day.

## LANDSCAPE (500 ft<sup>2</sup> or more)

- o Mulch all non-turf areas.
- o Use repeat cycles when watering lawn or shrubs in clay soils (if you're planning to water for 8 minutes, water twice for 4 minutes each).
- o Use drip irrigation instead of sprinklers for non-turf areas.
- o Replace ground cover/turf with cobble or stones, brick, or mulch.
- o Install water efficient shrubs or ground cover in place of turf.
- o If installing new turf, limit area and use drought tolerant species, space sprinkler heads such that the water from one sprinkler head reaches the adjacent sprinkler heads.
- o Install rain shut-off devices as part of irrigation/landscape control measures.
- o Avoid runoff by making sure that sprinklers are directing water to landscaped areas, and not to parking lots, sidewalks, or other paved areas.
- o Renovate existing landscape to include drought tolerant plants (water efficient landscape guidelines are available from your local water agency/utility).
- o Hydrozone: Group plants with similar water requirements together on the same irrigation line, and separate plants with different water requirements on separate irrigation lines.
- o If local rules allow, install a greywater system to deliver reusable water for cooling, washing and irrigation.
- o Other \_\_\_\_\_

## INDUSTRIAL or PROCESS WATER USE MEASURES

### A. Building Cooling Systems

- o Eliminate all single pass or "once through" cooling in all equipment such as X-ray machines, vacuum pumps, dry cleaning machines, cooling towers or

other similar equipment. Your water company may provide financial incentives to eliminate these once through systems.

- o Install controller to regulate amount of make up water to cooling tower, such as in line conductivity meter or timerbased solenoid. Please note that inline conductivity meters may need frequent calibration to maintain optimal performance.
- o For cooling towers with capacities of at least 500 tons, install flow meters to monitor the volume of make-up and blow-down water in cooling towers.
- o Add ozone treatment or other system that increases cycles of concentration of the tower.
- o Other \_\_\_\_\_

**B. Industrial/Process Water Use Measures**

- o Install water shutoff sensors for process rinse lines that are not in constant use.
- o Use high pressure-low volume spray nozzles where possible.
- o Reduce the rate of "trickle flow" maintained through process rinse baths during periods when processing is not taking place.
- o Examine the number and duration of rinsing cycles to determine if any can be eliminated.
- o Install "counter-flow" rinse tubs if multiple rinses are used.
- o Install flow meters on manual operated flow process control valves.
- o Use a wash and rinse water reclamation system.
- o Apply membrane technologies to recycling and recovery of process wastewater.
- o Recycle process water for cooling towers or landscape.
- o Other \_\_\_\_\_

**C. Other Water Use Measures**

- o Investigate recycling water from other processes into scrubber make up water.
- o Meter the amount of deionized (DI) water delivered to various departments in the plant and bill them for DI water based on volume.
- o Other \_\_\_\_\_

**Water Assessment Tips**

Be sure to identify major water and deionized (DI) water uses. Also identify opportunities for using non-potable or reclaimed water in landscape, rinse cycles, scrubbers, or other appropriate applications.

**Green Notes**

Water-cooled ice machines use 10 to 20 pounds of cooling water to make one pound of ice. Air-cooled units can result in water and sewage cost reductions up to \$1,282 annually. Spray rinsing can reduce water consumption by as much as 60% (as compared to immersion rinsing). Condensate return systems on boilers and steam generators can reduce operating costs by up to 70%.

# Solid Waste Reduction and Recycling

## *To be a Green Business:*

1. Conduct an assessment of your facility's solid waste streams. Review the assessment annually to determine if there are additional changes in your operations that can reduce the amount of waste generated. To do a solid waste assessment yourself you can follow the general guidelines provided here.

2. Implement from the following pages these measures (these are minimums):

- Reduce paper use 5 ways.
- Reduce business waste 5 ways.
- Recycle or reuse 5 materials.
- Purchase 3 recycled or used materials.  
(In MS Word use Format/Buttons to indicate the measures you are implementing and you can type in any measures you're implementing that aren't listed)

## **Reduce Paper Waste (Minimum 5)**

- Make two-sided printing and copying standard practice in your business (set copier to default to duplex printing).
- Use the back sides of printed sheets and old letterhead for notes and drafts (full sized or cut smaller), use in the fax and/or designate a "draft drawer" on the printer.
- Eliminate duplicate mailings and subscriptions by sending back mailing labels requesting all but one be removed.
- Remove your name/company from junk mail lists by writing to senders requesting removal from mailing list.
- Work with employees to remove their names from junk mail lists
- Purge your own mailing lists to eliminate duplication.
- Identify and eliminate unnecessary forms, double-side or redesign forms to use less space, or have forms on electronic media.
- Eliminate fax cover sheets by using "sticky" fax directory notes.
- Order supplies by e-mail or voicemail.
- Send office memos and message via voice- or e-mail, or post at a central bulletin board.
- Eliminate unnecessary reports and/or reduce report size or frequency.
- Use software that allows you to fax directly from your computer, without printing.
- Use continuous-circulation envelopes within your business; open mail carefully and reuse incoming envelopes for mail or interoffice

- circulation.  
Circulate reports, memos, newsletters, documents and periodicals rather than making/receiving individual copies.
- Use "central" or "master" hard copy files instead of multiple personal files.
- For new software, order only the number of manuals needed, encouraging employees to share.
- Do the same with phone books.
- Other \_\_\_\_\_

## **Green Notes**

The average office worker discards more than 175 lbs. of high-grade paper per year. Businesses use 2 million tons of paper in copiers each year.

## **Reduce Other Waste (Minimum 5)**

### *Purchasing Practices*

- Select products with the least packaging and/or which have easily recyclable packaging.
- Work with vendors to minimize product packaging: Ask vendors to take back packaging and used or damaged products for reuse and recycling (choose vendors that offer these services).
- Specify that deliveries be shipped in returnable containers (e.g. durable crates).
- Purchase reusable items (e.g. mugs instead of disposable cups, cloth towels and rags, rechargeable batteries, reusable silverware & dishes, refillable pens, erasable wall calendars, reusable coffee filters, etc.).
- Buy products bulk, concentrated, durable, repairable, and/or recyclable, making sure that you need *all* you are ordering.
- Centralize purchasing to eliminate unnecessary purchases and ensure that all waste reduction purchasing policies are followed.
- Use optical scanners, which give more details about inventory, allowing more precise ordering.
- Track material usage to optimize ordering.
- Replace several similar products with one or two that can do the same jobs.
- Arrange for cooperative buying through school district, state, trade associations, co-located business group, etc.

### *Inventory Measures*

- Purchase products with longer shelf lives.
- Track time-sensitive materials and use a "first-in-first-out" policy.
- Work with vendors and waste exchanges to find users for excess, offspec, or expired stock.
- Control access to raw materials to reduce overuse.
- Maintain proper storage conditions to reduce material degradation (temperature, humidity, etc.).

- o Arrange storage area/access to reduce potential for damaging stock.

### *Production & Packaging of Products*

- o Design products with reusable or recyclable components.
- o Eliminate unneeded packaging.
- o Use recyclable or reusable packaging.
- o Print message on products encouraging consumers to recycle the packaging/product.

### *Miscellaneous*

- o Educate consumers about environmentally responsible purchasing.
- o Have caterers serve "family style" in reusable serving dishes.
- o Other \_\_\_\_\_

#### **Green Notes**

Source reduction and recycling will save money as you reduce the volume and/or frequency of waste collection. If ten million people used their own ceramic mugs in the office each day, as much as five billion paper and Styrofoam cups would not be needed each year. Visit [www.1800cleanup.org/index.html](http://www.1800cleanup.org/index.html) and enter zip code to find local recyclers.

### **Recycle & Reuse (Minimum 5)**

Set up an ongoing system to recycle. Separating recyclable materials on site reduces collection and processing costs and increases their value. Make it easy for employees to recycle and increase your success: Place clearly marked collection bins in convenient locations. Keep mat knife handy for cardboard breakdown, etc.

- o Enroll in a waste exchange program. This can be especially effective if production processes result in a steady supply of "waste" that can be used as a "resource" by another company. Material:

\_\_\_\_\_

Recycle all of the following (required):

- o Office paper (computer, copy, white ledger) and mixed paper (color, glossy, junk mail, paperboard, magazines).
- o Newspaper
- o Telephone directories
- o Beverage containers
- o Metals – aluminum, tin, steel, copper, other
- o Corrugated cardboard
- o Plastics
- o Glass

Recycle additional materials as appropriate

- o Carpeting
- o Green waste
- o Wooden pallets and spools
- o Donate or exchange furniture, supplies, scrap materials, magazines, computer disks, etc.:

- o Donate to schools, churches, hospitals, libraries, nonprofit organizations, museums, teacher resource organizations, etc.
- o Other \_\_\_\_\_

### *Reuse at Your Business*

- o scrap input materials in production process packaging (e.g. bubble wrap, cardboard boxes, styrofoam blocks) or find someone who can (the Plastic Loose Fill Council (800) 828-2214 will direct you to businesses accepting polystyrene peanuts for reuse in your area.)
- o Set up a system for your customers to return packaging for reuse
- o Other materials from your manufacturing process. Specify \_\_\_\_\_

### **Purchase Used or Recycled Materials (Minimum 3)**

Always consider purchasing used products or products with recycled content. Reusing materials or products eliminates waste and conserves resources. Ideas for where to find or offer used materials are located on the following page. Purchasing products with recycled content also conserves resources and is essential to support the recycling market. New products made from recycled materials are developed almost daily. Several resources are available to help you buy recycled-content products. Here are examples of products and materials with recycled content:

- o Required: Copy and computer paper, fax paper with minimum 30% post consumer recycled content,
- o Business letterhead, envelopes, or cards
- o Folders, other paper products
- o Pencils/rules, and other desk accessories
- o Toilet paper, tissues and towels
- o Boxes and bags for retail use or shipping
- o Dumpster lids, utility bins, drums, recycling containers
- o Garbage pails and garbage bags
- o Benches/playground and picnic equipment
- o Building fixtures and paint
- o Wood chips, compost and other soil amendments
- o Parking lot/loading dock bumpers/car stops
- o Retread tires/tire flaps
- o Carpet, carpet undercushion or floor mats
- o Construction materials when building or remodeling: building fixtures, ceramic tiles, drywall, insulation, paint, concrete, composite lumber/wood, roofing, flooring, cabinets, ceiling tile, interior paneling, etc.

#### **Green Notes – Buying Recycled**

In the manufacture of "recycled" paper, 64% less energy and 58% less water is required, and 74% less air pollution is generated.

Look for recycled paper with a high post-consumer content (previously used – not manufacturing scraps). Copy paper with 30% post-consumer content is readily available.

# Pollution Prevention

## **To be a Green Business:**

1. Assess your facility for ways to prevent pollution. This will allow you to identify ways to reduce or eliminate hazardous waste, and prevent contamination of wastewater, storm water and the air. Review this document annually to identify even more changes to reduce pollution.

## 2. Implement pollution prevention measures as follows:

- Implement at least 10 good housekeeping and operating practices in your business to prevent wasteful practices.
- Reuse or recycle hazardous materials/wastes that can not be eliminated in at least 3 ways.
- Implement at least 3 measures to reduce vehicle emissions.

### *Going Green reduces Climate Change*

Climate Change results from increases in greenhouse gases, like carbon dioxide and methane, emitted into the atmosphere, thus increasing solar radiation. You can reduce this build-up (and your carbon footprint) by

- **Conserve energy** with fluorescents and Energy Star equipment.
- **Conserve water** with low-flow toilets and aerators, which reduces the energy needed to deliver water.
- **Conserve fuel** and switch to alternative fuel vehicles.
- **Reduce waste**, through & therefore methane gas emissions, by recycling, composting and buying products with minimal packaging

*Please note that some measures may be REQUIRED and subject to inspection by local programs.*

## **Good Housekeeping & Operating Measures (Minimum 10)**

### *Preventive Maintenance Measures*

- o Allocate costs for hazardous waste management to the specific operations generating them for a truer picture of the costs and profitability of the operation.
- o Establish a system for keeping shop/store clean and orderly.
- o Routinely inspect and address all potential sources of leaks, spills, and emissions (material/waste storage areas, pipes, valves and hoses; process equipment, etc.).
- o Inspect inventory, storage and/or shipping areas for potential accidents.
- o Use quality, resealable containers and keep containers/tanks covered when not in use (specific container requirements apply to hazardous materials).

### *Purchasing Policy Measures*

- o Centralize purchasing to eliminate unnecessary purchases and ensure that all waste reduction purchasing policies are followed.
- o Track material use to determine whether ordering is efficient.
- o Buy in containers that minimize material loss (wider than tall reduces surface area "cling").
- o Buy in as large a container as appropriate to use; bulk for heavily used materials, small containers for seldom used materials, etc.
- o Buy chemicals that can be regenerated.
- o Require vendors to take back unused samples or off-spec materials.

### *Inventory Control Measures*

- o Stock only what you need and order materials on a "just-in-time" basis.
- o Only allow trained personnel access to materials to reduce contamination or misuse.
- o Track time-sensitive materials and use a "first-in-first-out" policy.
- o Work with vendors to return excess or expired stock.

### *Receiving Measures*

- o Inspect shipments prior to acceptance for opened, damaged or leaking containers; check expiration date and proper labeling.
- o Test for off-spec materials.

### *Measures that Prevent and Control Spills*

- o Place clean-up supplies in convenient, easy-to-locate areas.
- o Store materials near point of use to avoid spills while transporting them.
- o Use material transfer methods that prevent spillage (pipelines, pump & spigot, spout & funnel).
- o Use "dry" cleanup methods inside the shop.
- o Other \_\_\_\_\_

### **Dry Clean-Up Methods**

- Clean up small spills with squeegees and rags
- Clean up larger spills with a hydrophobic\* mop or pad or wet/dry vacuum
- Recover fluids for reuse or recycling (squeeze from mop, wring from rags or absorbent mats, or discharge from vacuum)
- If hydrophobic mop can not be used or is not available, sweep area using dry absorbent material
- \*\*Reuse absorbents until spent, then dispose of properly. If it is hazardous, it must be disposed of as hazardous waste.
- \* Hydrophobic materials only pick up oily wastes, leaving water-based wastes behind. Spills can be separated and the recovered fluid recycled. It's "No Waste" clean-up!
- \*\* Consider replacing *disposable* absorbents with cleanable, *reusable* absorbent pads, mats, or socks as a more resource efficient and cost effective alternative.

### *Prevent Contamination of Storm Drains*

**Only rain down the drain!** The storm drain system is separate from the sanitary sewer system, and pollutants that enter these drains flow directly into creeks and the bay *without treatment*. Educate personnel about this difference and the importance of not letting contaminants enter storm drains. **All** businesses are required to prevent anything except rainwater from entering storm drains from any of the following activities or sources:

- Loading docks
- Dumpster areas
- Outdoor working areas
- Storage areas
- Utility vaults
- Landscaping
- Construction
- Cleaning equipment/tools
- Pre-painting
- Power-wash water
- Washing vehicles
- Cleaning parking lots

Monitor all subcontractors to be sure that their activities are not polluting the storm drains. Prevent erosion during all landscape, construction or other activities.

- Clean private catch basins once a year, before the first rain
- Post signs at trouble spots identifying the potential pollution problems and describing proper behaviors (e.g. loading docks, dumpster areas, & outdoor hoses).
- If your company owns vehicles, routinely check for leaks and establish a "ground staining" inspection routine.
- Use landscaping to minimize existing or potential erosion problems.
- Design berms or grading to prevent run-off or rain water from flowing across industrial areas where it could be contaminated.
- Keep a spill kit handy to catch/collect spills from leaking company or employee vehicles.
- Other \_\_\_\_\_

**Weed/Pest Management: Implement all appropriate measures among the following:**

- Have a written policy for employees and customers outlining your IPM policy & practices.
- Assess the amount of damage prior to application.
- Identify the conditions causing the problem to better understand control options (Use County Ag and/or Cooperative Extension for technical assistance/identification).
- Incorporate physical and mechanical pest control measures when appropriate. Use pesticides after considering other control methods.
- If a pesticide is needed, use the product with the least hazardous impact on the environment.
- Apply pesticides on an as-needed basis (rather than automatic calendar spraying).

- Observe/assess the results of treatments to determine the effectiveness, modifying treatment as needed.
- Spot treat in lieu of applying broadly.
- Avoid problematic pesticides, such as:
  - Those that are highly persistent or highly toxic.
  - Broad-spectrum chemicals.
  - Herbicides with clopyralids or picloram which persist in compost.
- Other \_\_\_\_\_

**Material and Product Changes (Minimum 3)**

Modifications to materials, products, technology and processes are very effective methods for preventing pollution. Avoid changes which merely replace one form of waste generation or hazardous material use with another!

Use the least hazardous, least polluting products that work. Specify replacements; each product replacement counts as a measure.  
Manufacturing materials (specify)

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Cleaning products:  
\_\_\_\_\_

Paint products: use low VOC and water-based products where possible. Avoid tints with heavy metals.  
\_\_\_\_\_

Solvents: \_\_\_\_\_

Pesticides: \_\_\_\_\_

Aerosol spray cans: use refillable pumps or wipe-on products: \_\_\_\_\_

- Reduce redundant or similar products

Other \_\_\_\_\_  
○ \_\_\_\_\_  
○ \_\_\_\_\_

## Reuse or Recycle Hazardous Materials and Wastes (Minimum 3)

After eliminating any unnecessary hazardous materials/wastes, look for ways to *reuse* your waste products either in your processes or as a raw material for other companies. Then consider recycling, either on- or off-site, the remaining, segregated hazardous waste streams. (Note that reporting requirements for recycling may differ from those for disposal.)

- o Regenerate, recirculate and reuse solvents, cleaning solutions.
- o Buy products materials with recycled content, such as recycle motor oil (re-refined), antifreeze, or paint.
- o "Waste exchange" with a company that can use your spent, off-spec, or expired hazardous materials.
- o Recycle empty containers
  - Return to supplier for refill.
  - Recondition onsite (permit requirements may apply) or contract with drum reconditioner.
  - Reclaim scrap value onsite or contract with scrap dealer.
- o Other \_\_\_\_\_

**GREEN NOTES** *The following materials are hazardous universal wastes, and must be recycled, not disposed in the regular trash. For more information, contact the County's household hazardous waste program at 800.606.6606.*

- ◆ Restaurant grease, fats and oil.
- ◆ Spent fluorescent light bulbs and tubes.
- ◆ Electronic equipment (computers, cell phones, pagers, etc.).
- ◆ Batteries (to household hazardous waste or a battery recycling program such as Rechargeable Battery Recycling Corp: [www.rbrc.org](http://www.rbrc.org))

### Green Notes

1 gallon of used motor oil can be re-refined to produce 2½ quarts of high quality lubricating oil. It takes 42 gallons of crude oil to produce the same amount. 1.3 million gallons of oil per day could be saved if all motor oil in our country was recycled.

## Prevent Pollution from Vehicle Emissions (Minimum 3)

- o Set aside car/vanpool parking spaces.
- o Provide employer commuter van.
- o Encourage commute alternatives by posting commuter ride sign-up sheets, environmental information, employee home zip code map, and information about public transit schedules/routes to your business.
- o Patronize services close to your business (e.g. food service, copy centers, etc.)
- o Sell bus or light rail passes on-site or at a discount to your employees.
- o Offer a shuttle service to/from bus, train and/or light rail stops.
- o Provide a "guaranteed ride home" when needed by employees who carpool or take public transit to work.

- o Offer telecommuting opportunities and/or flexible schedules so workers can avoid heavy traffic commutes.
- o Encourage bicycling to work by offering rebates on bicycles bought for commuting.
- o Provide secure and enclosed bicycle parking for employees (e.g. bike lockers).
- o Provide shower facilities for employees who walk/jog/bike to work or contract with an athletic club for use of their facilities.
- o Eliminate unnecessary driving for deliveries
  - When possible, arrange for a single distributor for several items
  - Plan delivery routes to eliminate unnecessary trips or driving.
- o Convert company vehicles to electric, hybrids or alternative fuels (natural gas, methanol).
- o Keep company vehicles well maintained to prevent leaks and minimize emissions.
- o Join the Spare the Air program (see box).
- o Other \_\_\_\_\_

### Green Notes

"Spare the Air" days are called when conditions indicate that we may exceed federal standards for healthy air. Employers who join the program (there's over 1700 employers now!) receive free information for employees on how they can improve air quality, as well as a fax/e-mail the day before expected Spare the Air days to alert employees. Join by visiting the Bay Area Air Quality Management District website at [www.sparetheair.org](http://www.sparetheair.org).

## Greenhouse Gas Emissions

- Complete a CO2 or eco-footprint calculator to determine your own greenhouse gas emissions.
- Convert company vehicles to low emission vehicles (electric, hybrid, natural gas or alternative fuels).
- Offer electric vehicle recharge ports for visitors and staff using electric vehicles.
- Use biodiesel (100% or blends) or vegetable diesel in place of petrodiesel in vehicles.
- Install renewable energy sources, such as solar panels or wind generators.  
System Size: \_\_\_\_\_
- Buy renewable energy credits or green tags to offset the CO2 emissions from your office's use of electricity and natural gas (see [www.green-e.org](http://www.green-e.org)).
- Offset company's vehicle CO2 emissions. See [www.driveneutral.org](http://www.driveneutral.org), [www.carneutral.org](http://www.carneutral.org), or [www.terrapass.org](http://www.terrapass.org).
- Other: \_\_\_\_\_