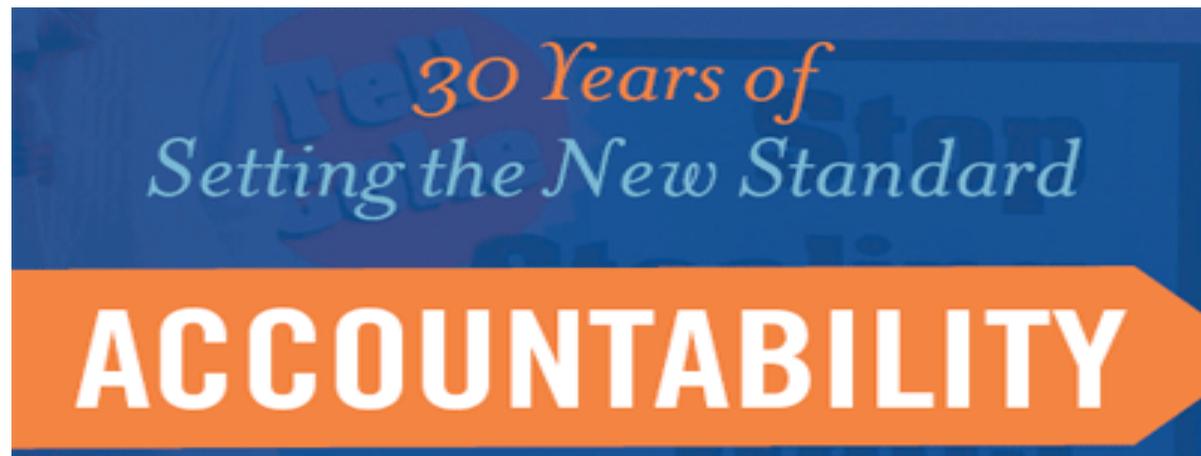




The Social and Environmental Impacts of Bottled Water

Mark Hays, Senior Researcher
Corporate Accountability International

Corporate Accountability International is a non-profit, membership-based, grassroots organization that works to protect people and the environment from dangerous and irresponsible corporate practices.



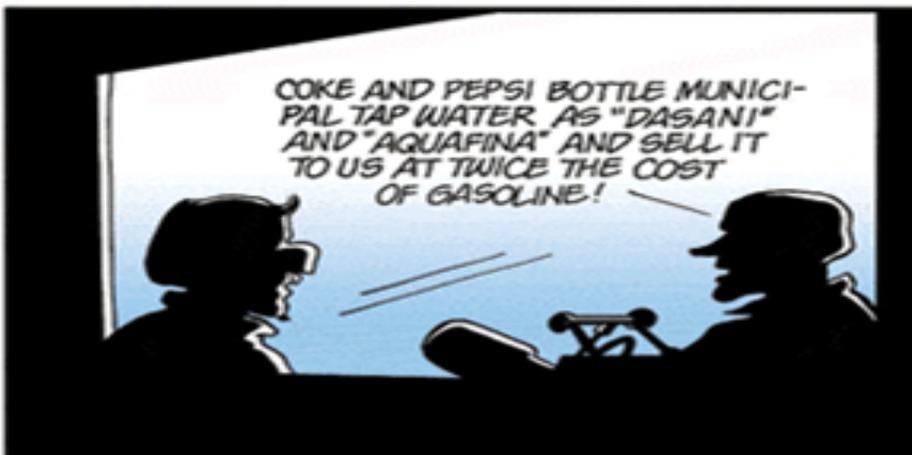
For 30 years, we have been waging winning campaigns that have resulted in getting some of the largest transnational corporations in the world to end their life-threatening abuses. Right now we are addressing one of the greatest challenges facing humanity today—water.

World Water Crisis

- ▶ Over 1 *billion* people lack access to clean, safe affordable drinking water.
- ▶ By 2025 two-thirds of the world's population is predicted to lack access to water.
- ▶ The World Bank has predicted that the wars of tomorrow will be fought over water.
- ▶ The problem is exacerbated by global warming which is spreading droughts.



Water delivery day India



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www.dilbert.com

G.B. Trudeau

The Rise of Bottled Water

- ▶ Bottled water market tripled over past 10 years
- ▶ More than 75% of the people in this country drink bottled water.
- ▶ One in five Americans drink only bottled water even though bottled water is thousands of times more expensive than tap water.



Bottled Water Revenues

- ▶ In 2006 in the U.S., bottled water revenues were \$15 billion – over \$28,000 per minute – and 27.6 gallons of bottled water per person.
- ▶ Worldwide the bottled water market was estimated to be more than \$100 *billion* in 2005.



Bottled Water Marketing

- ▶ “It struck me that all you had to do is take water out of the ground and sell it for more than the price of wine, or for that matter oil.” Gustave Levin, former Chairman of Perrier
- ▶ “We sell water...so we need to be clever.” Jeffery Caso, former Vice-President of Nestlé.
- ▶ Advertising budgets run as high as \$150 million each year.



Bottled Water vs. Tap Water

- ▶ Public water supplies in the U.S. deliver clean, safe, affordable drinking water.
- ▶ Studies have shown that bottled water is no safer than tap water.
- ▶ Bottled water is less regulated than our public tap water.

Environmental Impacts

- ▶ Making the plastic bottles for bottled water for sale in the U.S. required the equivalent of 17 *million* barrels of oil last year and generated 2.5 million tons of carbon dioxide.
- ▶ To visualize the entire energy costs of the lifecycle of bottled water, imagine filling each bottle with a quarter of oil.



Environmental Impacts

- ▶ Each year, more than 4 billion pounds of PET plastic bottles end up in landfills or as roadside litter.
- ▶ Less than 20% of plastic water bottles are recycled.
- ▶ It can cost cities more than \$70 million in tipping fee disposal costs alone, not including the costs of collection, trucking and litter removal. This is funding not available for other pressing city needs like water infrastructure and public safety.



Environmental Impacts

- ▶ Extraction: Some bottlers take water in large volumes from springs and aquifers, which can dry up wells, deplete wetlands and drain rivers.

- ▶ Water pumps can extract water 24/7, taking millions of gallons each day.



Mt Shasta: Proposed site for Nestle bottling operation

Social Impacts

- ▶ Up to 40% of bottled water comes from already treated municipal water systems; paid for at taxpayer expense. Water bottlers then sell this water back to the public at thousands of times the price, virtually unchanged.
- ▶ In 2007, 8.8 billion gallons of bottled water were sold in the U.S.
- ▶ In Tap Water Challenges across the country, people can't tell a difference.



'Tap Water Challenge' in Seattle

Social Impacts

- ▶ If the public and the future generations increasingly believe that the only place to get clean, safe drinking water is from a bottle, there will be decreased political support to fund our public water systems.
- ▶ The funding gap between municipal water system capital needs and budget authority is presently \$22 billion a year and increasing.

Is this the future of our drinking water?



Top 3 Reasons to Think Outside the Bottle

- ▶ It's good for the environment
- ▶ It's good for your institutions' budgets
- ▶ It's good for our public water systems

Actions to Think Outside the Bottle

- ▶ Take the Think Outside the Bottle Pledge
- ▶ Cancel contracts/reduce spending on bottled water.
- ▶ Promote your city or town's local public tap water.
- ▶ Increase well-maintained water fountains in public spaces.
- ▶ Support public water infrastructure improvements.

TAKE THE PLEDGE

THINK OUTSIDE THE BOTTLE

PLEDGE TO THINK OUTSIDE THE BOTTLE

- Because city governments guarantee an essential public service by providing affordable access to safe drinking water;
- Because municipalities face great challenges due to our nation's aging water infrastructure;
- Because our city water systems face a crisis in public confidence as more and more people turn to bottled water for their drinking water needs, in place of public tap water;
- Because people's awareness of the importance of safe drinking water has grown over the years, and bottled water marketing plays upon people's concerns about water quality by portraying bottled water as somehow safer or more pure;
- Because bottled water is not any safer or more pure than tap water and public water systems are more highly regulated;
- Because up to 40% of bottled water on the market comes from municipal water systems;

PLEDGING TO THINK OUTSIDE THE BOTTLE MEANS:

- I will take action to support public water systems in my community and beyond;
- I will call on my local government to opt for tap water over bottled water as a way of reducing spending on bottled water and packaging waste and showing support for our local water system.

For more information, visit: www.ThinkOutsideTheBottle.org

I PLEDGE TO THINK OUTSIDE THE BOTTLE!

Name _____
 Title or Position _____
 Address _____
 Phone _____
 E-mail _____
 City/Town _____

YES! I WANT TO GET MORE INVOLVED.
 Please return pledge cards to Corporate Accountability International at 46 Plympton Street, Boston, MA 02118 • 800.688.8797

CHALLENGE CORPORATE CONTROL OF WATER

A Bottled Water Free Establishment

CERTIFIED THINK OUTSIDE THE BOTTLE

www.ThinkOutsideTheBottle.org

Think Outside the Bottle: A Guide to Bottled Water Alternatives

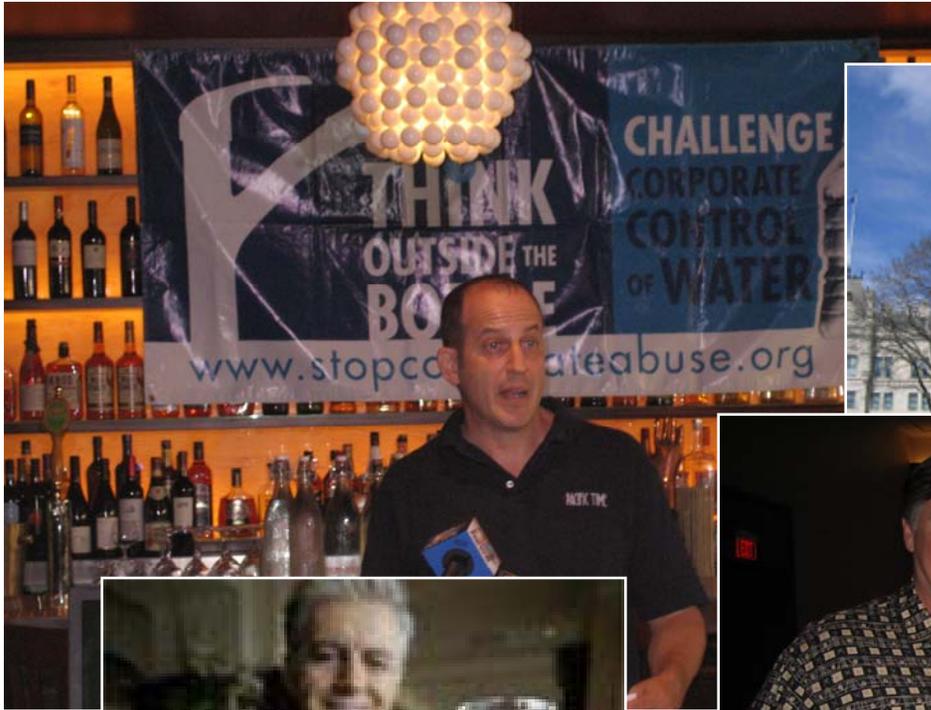
RPN
 Responsible Purchasing Network
 Order by a New American Trade

3 **CORPORATE ACCOUNTABILITY INTERNATIONAL**
 TELEPHONE: 800.688.8797
 WWW: www.thinkoutsidethebottle.org

What is Happening Today?



- ▶ In June the U.S. Conference of Mayors passed a resolution encouraging cities to phase out spending on bottled water.
- ▶ More than 60 cities have taken action to reduce spending on bottled water.
- ▶ Some saving as much as \$500,000 a year by cancelling contracts.
- ▶ Dozens of restaurants, schools, and other institutions have also taken the Pledge



Contact

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www.ThinkOutsidetheBottle.org

www.StopCorporateAbuse.org

August 26, 2008

The Museum of Modern Art

WATER-FILTRATION SYSTEM

Presentation to:
Responsible Purchasing Network, Webinar

Nancy Read
Director, Administrative Services
Nelson Nieves
Assistant Director, Building Operations

Index

- ❖ **What prompted the switch from Bottle to direct filtration**
- ❖ **Benefits of Direct filtration System**
- ❖ **Initial Process**
- ❖ **Pros & Cons of the changing systems**
- ❖ **Getting the word out to the staff**
- ❖ **End Results**

WHAT PROMPTED THE SWITCH FROM BOTTLE TO DIRECT WATER-FILTRATION SYSTEM?

- ❖ MoMA Staff / Energy Committee Movement
- ❖ Reduction of plastic usage
- ❖ Reduction in cost for providing water to staff

BENEFITS

- ❖ Improvement in Quality of Drinking Water
- ❖ Reduction of clutter in hallways and office spaces
- ❖ Attempt to reduce or eliminate potential workman compensation claims with replacing the 5 gallon bottles

INITIAL PROCESS

1. Review existing water cooler locations

- ❖ Determine number of coolers being removed/installed
- ❖ Locate domestic water source closest to coolers
- ❖ Determine plumbing costs to run new water lines to each location

2. Cost Comparison

- ❖ Bottled water costs / new water filtration contract
- ❖ Annual savings of 33% after 1st yr.
- ❖ Cost for initial plumbing installations

3. Re-evaluate locations for new units

- ❖ Cost consideration (installation of new plumbing lines)
- ❖ Visibility – preventing damages if leak occurs
- ❖ Proximity to Art Galleries (No water lines above art)
- ❖ Accessibility to all staff (easy accessibility)

4. Install test water units on selected floors

- ❖ Positive response from staff

PROS / CONS OF CHANGING THE SYSTEM

- 1. Reduction in number of old style coolers through out complex / Change in sites**
 - ❖ Initial Staff reaction having to walk longer distances for water (*Con*)
 - ❖ Overcome by benefits of the new system (*Pro*)

- 2. Need to maintain plastic bottled water units**
 - ❖ Too distant from domestic water source (*con*)

- 3. Additional water-filtration units**
 - ❖ Additional cost per unit MUST be negotiated as part of contract

GETTING THE WORD OUT TO THE STAFF

1. All Staff e-mail

- ❖ Announcement of facility wide implementation was made to staff

2. MoMA Staff Website

- ❖ Initial feature on home page
- ❖ Featured on and Maintained on MoMA Energy Conservation web page

3. Promote and Display sample unit at MoMA's *"Green Day"*

4. Aluminum *"MoMA H2O"* Water Bottles provide to staff as holiday gift from Board of Trustees



END RESULTS

1. Environmental savings

- ❖ Reduction in plastic usage as an institution
- ❖ Reduction in carbon footprint

2. Overwhelming positive response from staff

- ❖ Environmental benefits
- ❖ Pure and better-tasting water

3. Labor savings of transporting bottles

- ❖ Reduction in potential workers comp claims
- ❖ Reduction in internal labor spent transporting water bottles to cooler locations

The Importance of Municipal Water

San Francisco's Phase Out of Bottled Water

Responsible Purchasing Network Webinar

August 2008



San Francisco Public Utilities Commission



Mission

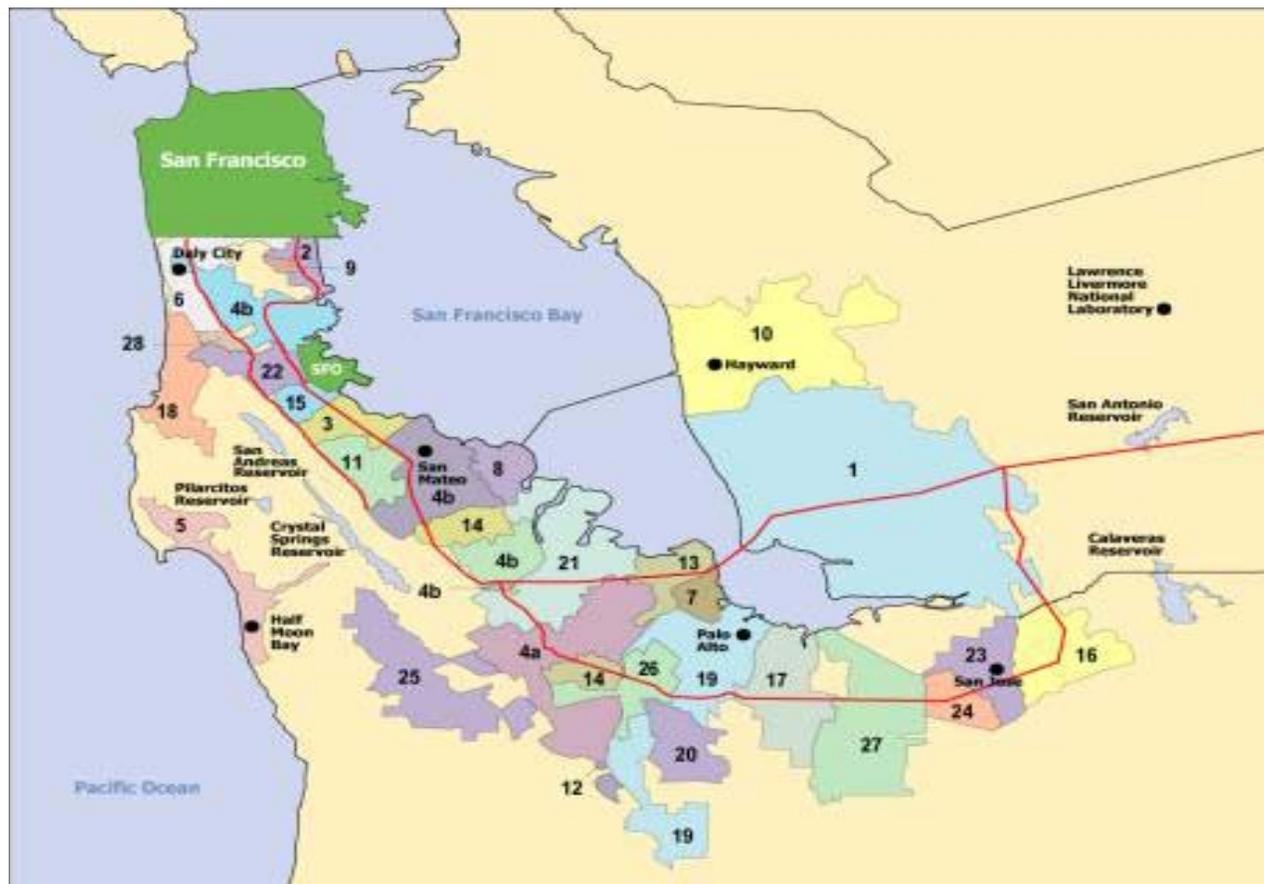
“To serve San Francisco and its Bay Area customers with reliable, high quality water, while maximizing benefits from power operations and responsibly managing the resources entrusted to our care.”



SFPUC Service Area



SFPUC serves drinking water to 2.4 million people in 5 counties



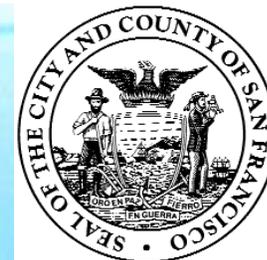
SFPUC Water and Power System



Background for Bottled Water Ban



- Municipal tap water is a safe, healthy choice
- San Francisco's regional water system collects granite-filtered spring snowmelt from the Sierra Nevada at the Hetch Hetchy Reservoir for delivery to San Francisco and Bay Area taps
- Water collected at the Hetch Hetchy Reservoir exceeds all federal and state criteria for water quality and San Francisco's tap water is tested nearly 90,000 times a year throughout the system to ensure its safety



Why Phase out Bottled Water?

Environmental Concerns:

- *Reducing Carbon Footprint:*
 - ◆ *Pacific Institute estimates that in 2006 the equivalent of more than 17 million barrels of oil were used to make the plastic water bottles Americans use each year.*
 - ◆ *Water coolers and individual water bottles are extremely heavy to transport.*
 - ◆ *Distribution of bottled water by boat, truck and train involves burning massive quantities of fossil fuels.*
- *Burden to Waste Stream and Landfills:*
 - ◆ *NRDC and others have estimated that Americans threw away 75-85% of non-carbonated PET bottles, which can take more than 1,000 years to biodegrade and can contribute to leaching toxics into ground water.*
- *Ecosystem Depletion:*
 - ◆ *Water diverted from local aquifers for the bottled water industry can strain surrounding ecosystems.*
- *Water Quality:*
 - ◆ *Bottled water is regulated by the FDA. Municipal tap water is regulated by the EPA and has more stringent requirements for testing. SF Municipal tap water is tested over 90,000 times a year.*

Why Phase Out Bottled Water?



Costs:

- Bottled water is over 1000 times more expensive than San Francisco tap water
- San Francisco will save nearly \$1 million annually by phasing out bottled water contract

Why Phase Out Bottled Water?



Other issues:

- Lead by Example
 - ❖ *SF's government phase out has led to launch of voluntary restaurant ban*
- SF mandating phase out of other products that negatively impact environment
 - ❖ *Styrofoam ban*
 - ❖ *Plastic bag ban*
- Promotion of bottled water decreases need for water infrastructure investment in public mind
 - ❖ *SF investing \$4.3 billion in water infrastructure rebuild*

SF Government Bottled Water Ban



- Mayor Gavin Newsom initiated Executive Directive June 2007
- Phased in over 6 months
- Exceptions for public health clinics, emergency use and labor union MOUs

Implementation



- SFPUC partners with SF City and County Department of Real Estate to identify and phase out bottled water coolers, single serve bottles throughout government facilities
- SF Office of Contract Administration ceases approval of bottled water purchases
- SFPUC Water Quality Bureau tests water quality where requested
- 'Request for proposal' issued for new Citywide bottle-less water dispenser contract

Implementation

- Bottle-less dispensers replaced traditional 5-gallon coolers
- Taps into existing plumbing lines



Public Education and Outreach



SFPUC launches comprehensive public education campaign to City employees and San Francisco residents:

- Media relations
- Water quality fact sheet paycheck insert to 30,000 City employees
- 'Bottled-water' pledge drives at City worksites and community events
- Social marketing, bottled water video, online 'bottled-water' pledge form, visit http://sfwater.org/detail_media.cfm/MC_ID/20/MSC_ID/357/C_ID/3675
- 'Take Back the Tap' campaign at San Francisco restaurants, visit www.takebackthetap.org
- US Conference of Mayors Bottled Water Resolution

Public Education and Outreach



Bottled water pledge participants
received a stainless steel water bottle



Key Issues



- Public education
- Resources for water quality testing
- Water storage for emergency preparedness
- Water for special events, service to public
- Remote employees
- Access to hot and cold water

For More Information



www.sfwater.org

Chandra Johnson

Coordinator of Citizen Involvement, External Affairs, SFPUC

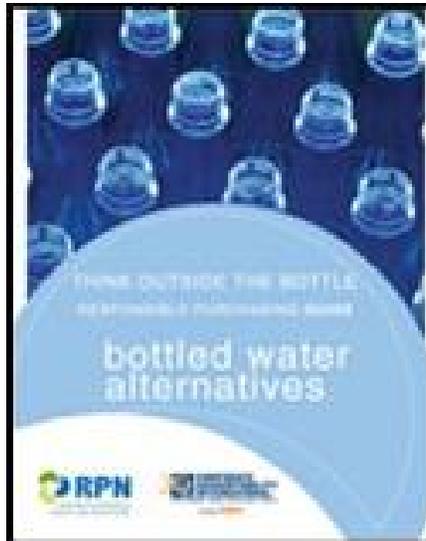
1155 Market Street, San Francisco CA 94103

415-554-3289

cjohnson@sfwater.org



Bottled Water Alternatives

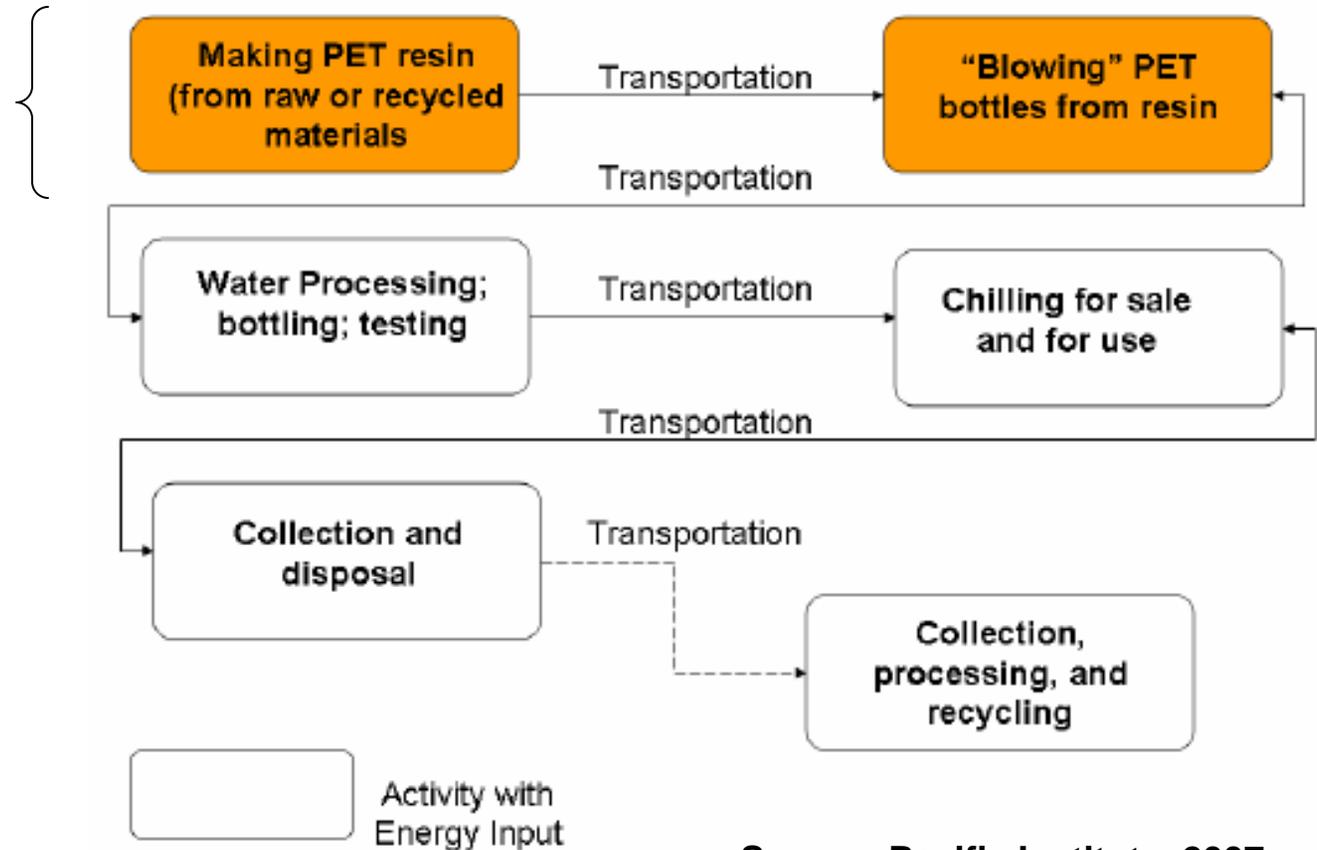


Courtney Godwin
Responsible Purchasing Network
Think Outside the Bottle Webinar
August 26, 2008



Carbon Impacts

17 million barrels of oil in 2006



Source: Pacific Institute, 2007

Carbon Impacts



17 million barrels of oil will:

- ▶ **Fuel 1 million U.S. cars for 1 year**
- ▶ **Generate 2.5 million tons of CO₂**

OIL → **Life-cycle energy required for every bottle of water produced**

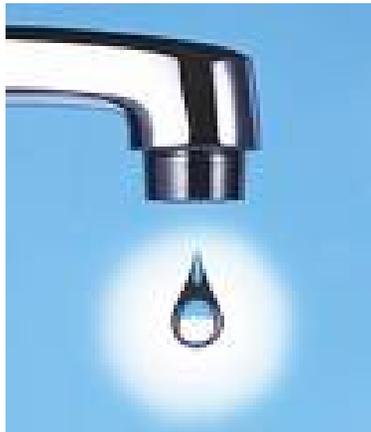
Source: Pacific Institute, 2007

Cost, Quality, & Supply

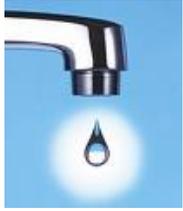


- ▶ **Bottled water is more expensive than gasoline (CAI, 2008)**
- ▶ **Testing and reporting requirements are stricter for tap water (EPA, 2003)**
- ▶ **>90% of Americans have access to safe, reliable tap water (EPA, 2006)**

Solution to Bottled Water Problem:



Tap Water



Tap Water Quality

- ▶ **Test water and monitor regularly**
- ▶ **Consumer Confidence Reports**
 - ▶ Annual reports from local water supplier
- ▶ **Safe Drinking Water Hotline**
 - ▶ 800-426-4791
- ▶ **State Certified Testing Laboratories**
 - ▶ <http://www.epa.gov/safewater/labs/index.html>

Filtration and Delivery

- ▶ Filter water if necessary and deliver



- ▶ Rely on standards (NSF/ANSI)
- ▶ Maintain equipment



Water Filters

- ▶ **Point of entry and point of use**
- ▶ **Choose filter that addresses your contaminants**
- ▶ **Rely on standards (NSF/ANSI)**
- ▶ **RPN and NSF product databases**

Bottled Water Cooler



No!

Bottle-less Water Cooler



Yes!



Bottle-less Water Coolers

- ▶ **Plumbed into tap water line**
- ▶ **Typically equipped with filters**
- ▶ **50-80% less expensive than bottled water coolers**
- ▶ **Widely available**



Water Fountains

- ▶ Installed in most buildings
- ▶ Life-cycle cost savings
 - ▶ E.g. Santa Clara, CA
 - ▶ Upgraded 30 water fountains
 - ▶ Up to \$230k saved over 5 years
- ▶ Retrofits of older equipment
 - ▶ Taller spigots for refilling reusable bottles



Reusable Bottles

- ▶ **Lower life-cycle costs than single-use disposal containers**
- ▶ **Metal, plastic, glass, ceramic**
- ▶ **Metal is most preferred**

Bottled Water Impacts Calculator

INPUT VALUES

Number of 16.9 oz. Bottles of Water Consumed per Year

Cost of Tap Water per Gallon

Cost of 16.9 oz Bottle of Water

IMPACTS

Total Water Drank	313 gallons
Extra Water Required for Production and Purification	625 gallons
Energy Required for Manufacturing	201 MJ
Oil Required to Produce the Plastic Bottle(s)	50 gallons
CO ₂ e to Manufacture Plastic Bottle(s)	375 pounds
Extra Cost of Bottled Water Compared to Tap Water	\$2,996.00

Policies

- ▶ **Ban purchase of bottled water**
 - ▶ San Francisco, Seattle
- ▶ **Promote tap water supplies**
 - ▶ Minneapolis
- ▶ **No tap water at events**
 - ▶ Ann Arbor
- ▶ **Tax bottled water**
 - ▶ Chicago
- ▶ **Expand 'bottle bills'**
 - ▶ State of NY



U.S. bottled
water sales
SLOW
in 2007



Thank you.

www.ResponsiblePurchasing.org

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