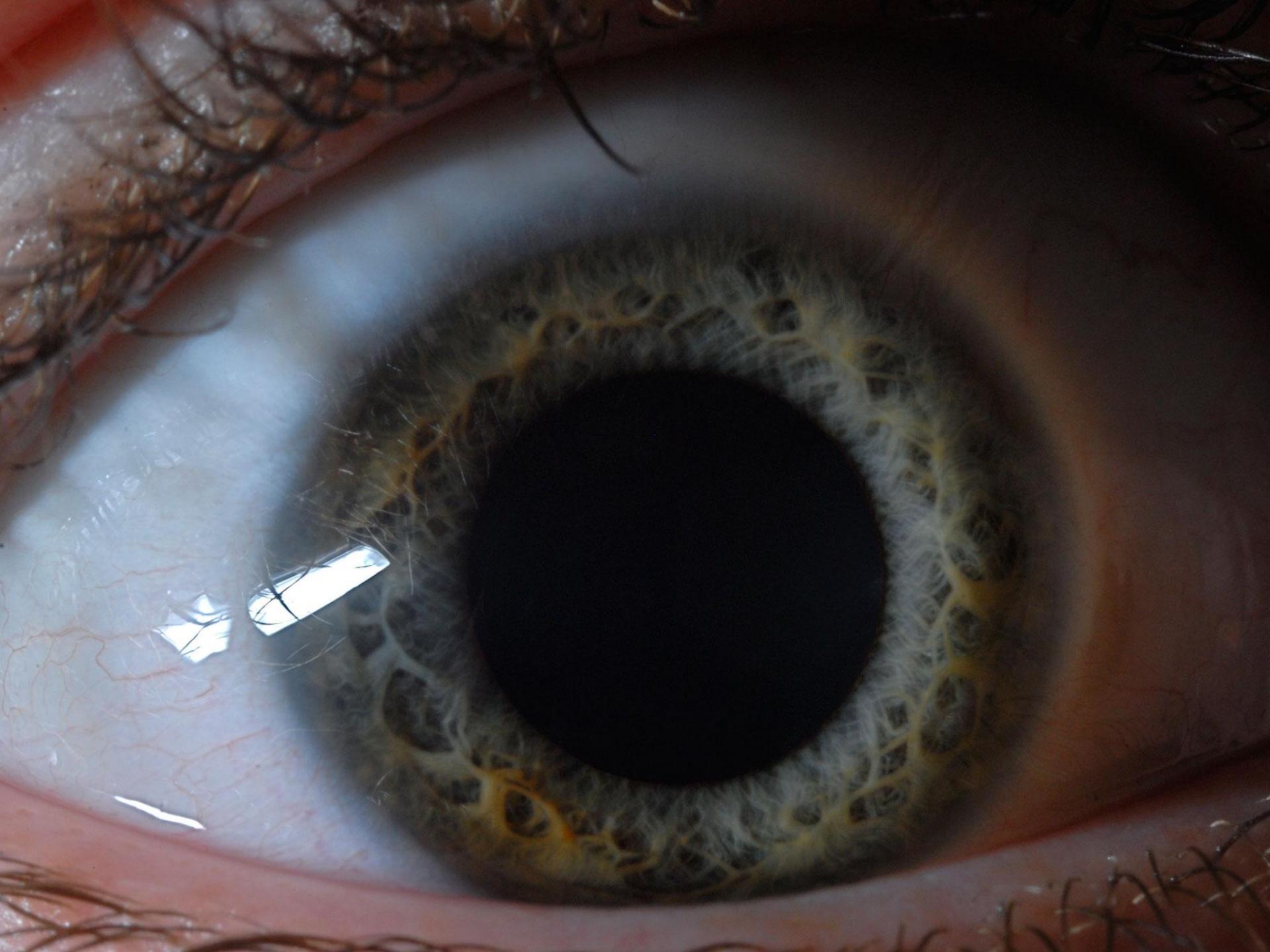


Green Cleaning in San Francisco



Swati Sharma
Chris Geiger

Toxics Reduction Program
San Francisco Department of the
Environment







Why green cleaning?

- Janitorial workers have highest rates of occupational asthma (625 cases per million). More than twice the rate for any other occupation.

[SOURCE: F. Reinisch et al., "Physician reports of work-related asthma in California, 1993-1996," American Journal of Industrial Medicine, Jan. 2001, vol. 39, no. 1, 72-83.]

- Exposure to hazardous chemicals can be reduced by 20-70% by changing purchasing practices

[SOURCE: Environmentally Preferable Purchasing Pilot Project. 1993. City of San Francisco]

- 3,000 high-volume chemicals: 7% have complete toxicity data, 43% have no data.

[SOURCE: U.S. EPA, Chemical Hazard Data Availability Study, High Production Volume (HPV) Chemicals and SIDS Testing]



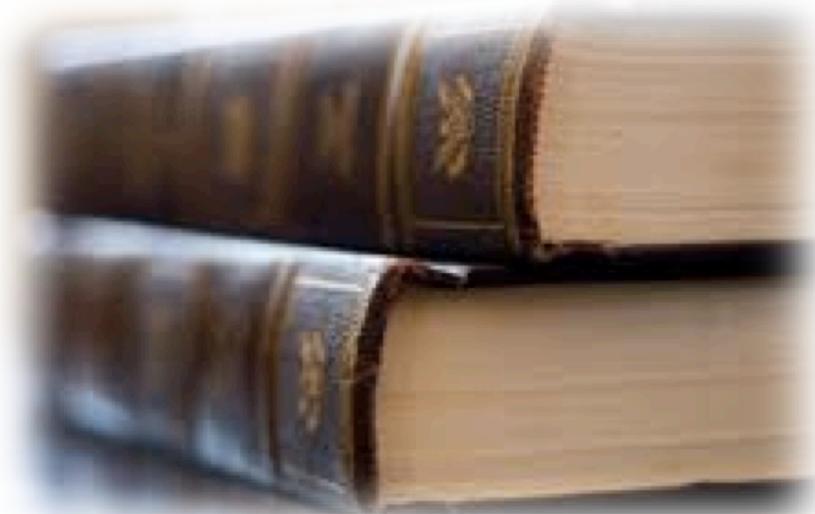
Green cleaning with SF's municipal staff



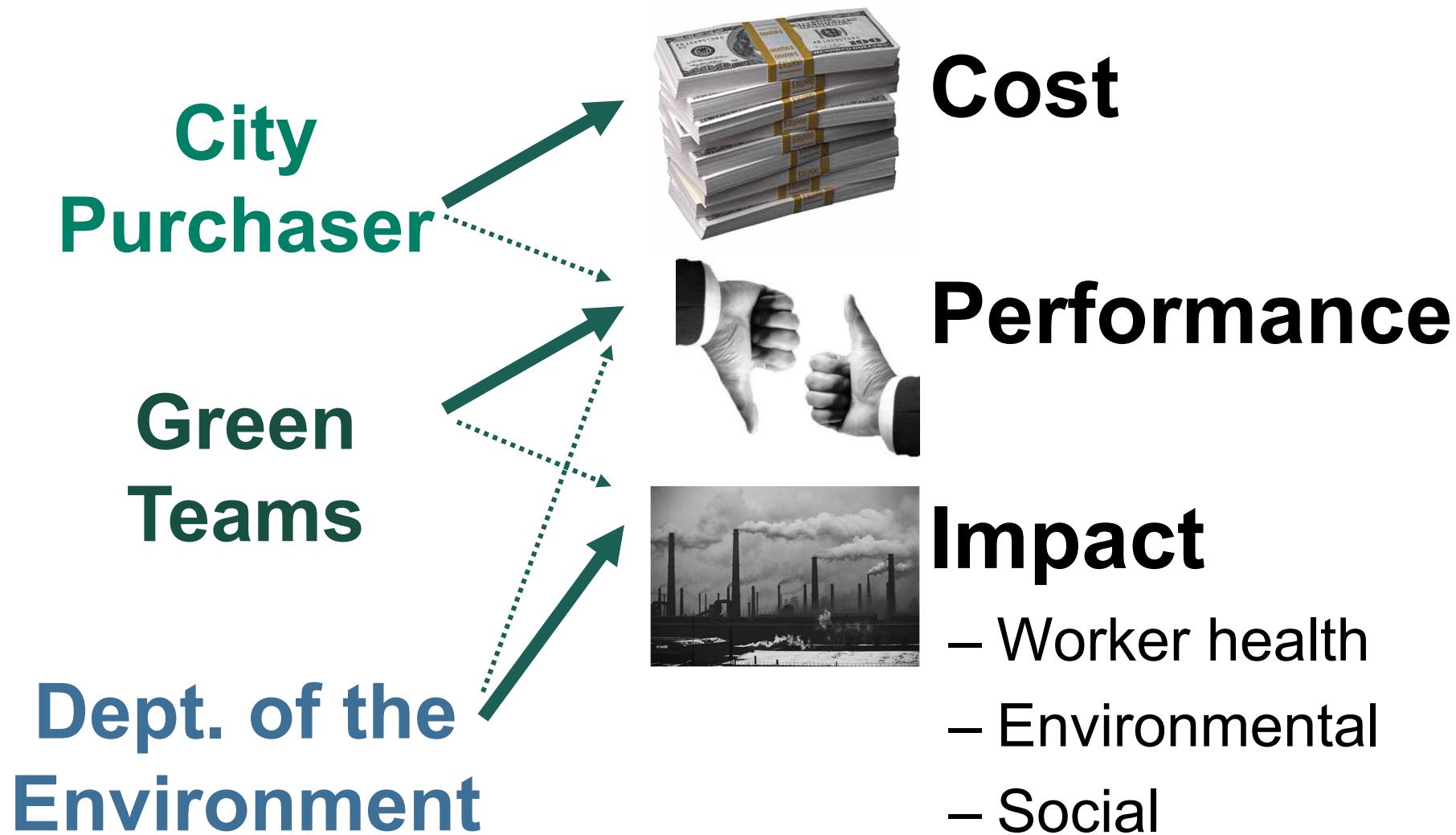


2005 Ordinance Requirements

- City agencies only
- Commodity contracts only
- **Purchases restricted to “approved list”**
- Prioritization
- Reporting
- Waivers
- Training & outreach



Green Purchasing in San Francisco: **Program Structure**





SFApproved List

Products that meet San Francisco's
Health and Environmental Requirements

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- [Electronics](#)
- [Electronics Cleaners](#)
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Created: Oct 1, 2011

2. Various Certified and...

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3. LED for Traffic &...

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4. Various LEDs that meet...

[Category: LEDs](#)

Created: Apr 1, 2011

5. Various products...

[Category: Adhesives & Caulks](#)

Created: Apr 1, 2011

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Stakeholder participation



- Green Teams!
- Reality checks
- Performance testing
- Buy-in



Metrics

| Dept. & Staff | green by staff | \$ by staff | green by dept. | \$ by dept. | Bathroom cleaner | Degreaser | | General purpose cleaner | | Glass cleaner | Paper towels | | | Toilet seat cover | Toilet tissue | | |
|---|----------------|-------------|----------------|-------------|------------------|-----------|------------|-------------------------|------------|---------------|--------------|----------|-----------|-------------------|---------------|----------|-----------|
| | | | | | required | required | prohibited | required | prohibited | prohibited | prohibited | required | suggested | required | prohibited | required | suggested |
| Real Estate (City Hall): Victor Serrato | 100% | \$35,918 | | | | | | | | | | \$35,918 | | | | | |
| Real Estate (Davies Symphony): | 100% | \$9,950 | | | | | | | | | | | \$6,790 | | | \$3,160 | |
| Real Estate (Opera House): | 100% | \$9,423 | | | | | | | | | | | \$6,790 | | | \$2,633 | |
| Real Estate: | 98% | \$38,150 | | | | | | | | | | \$19,594 | | \$693 | \$717 | \$4,021 | \$13,125 |
| Real Estate: Al Argente | 68% | \$5,963 | | | | | | | | | | \$4,080 | | | \$1,883 | | |
| Real Estate: Jess Myers | 100% | \$6,053 | | | | | | | | | | \$5,377 | | \$676 | | | |
| Real Estate: | | | | | | | | | | | | | | | | | |

Product Cost

from “*The Real Cost of Green Cleaning*”

http://www.sfenvironment.org/downloads/library/the_real_costs_of_green_cleaning_v6.pdf



- 2010 survey of 383 products (green & conventional)
- Prices equivalent for green vs. conventional (!)
- RTU products 15X more expensive than concentrates
- Aerosols 27X more expensive than concentrates





Product Cost (cont'd)

Table 2. Price comparison of green and conventional cleaning products sold as concentrates. Ready-to-use (RTU) products not included. Prices shown are dollars/gal RTU at medium soil dilution.

| Product category | Conventional | | | |
|--------------------------|--------------|---------|-------|----|
| | Low | Average | High | N |
| Carpet Cleaners | 0.11 | 1.48 | 8.23 | 28 |
| Cleaner/Degreasers | 0.06 | 2.00 | 20.30 | 45 |
| General Purpose Cleaners | 0.19 | 1.59 | 7.79 | 15 |
| Glass Cleaners | 0.21 | 0.99 | 3.00 | 9 |
| Neutral Cleaners | 0.06 | 0.25 | 0.84 | 17 |
| Strippers | 1.01 | 4.59 | 9.74 | 21 |
| Restroom Cleaners | 0.80 | 7.67 | 24.50 | 11 |
| Product category | Green | | | |
| | Low | Average | High | N |
| Carpet Cleaners | 0.09 | 0.59 | 1.44 | 6 |
| Cleaner/Degreasers | 0.20 | 0.85 | 1.87 | 5 |
| General Purpose Cleaners | 0.24 | 0.76 | 1.27 | 10 |
| Glass Cleaners | 0.18 | 2.66 | 22.71 | 16 |
| Neutral Cleaners | 0.08 | 0.24 | 0.41 | 13 |
| Strippers | 0.03 | 1.86 | 6.13 | 8 |
| Restroom Cleaners | 0.24 | 2.59 | 10.41 | 7 |



Custodial Strike





Greening Custodial Companies



Custodial
Staff Health

Public
Health

Environment



Demand for green cleaning training

- Green product list is not enough
- Green practices are just as important
- Need for multi-lingual training
- Access to free non-product specific training





EPA Source Reduction Grant

1. Curriculum Development
2. Pilot Program
3. Green Business Standards



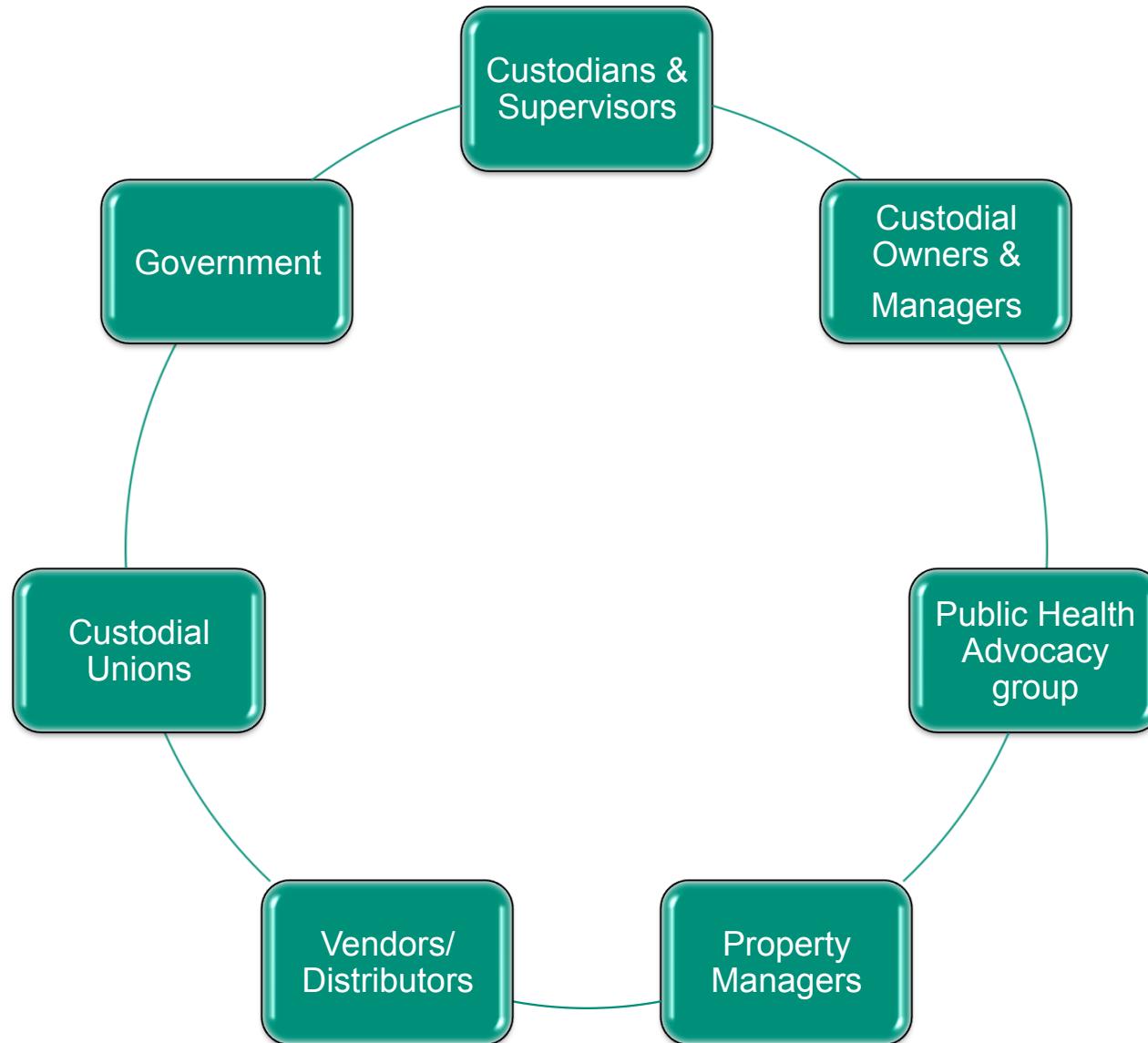


SF's Commercial Custodial Companies





1. Stakeholder Group





2. Stakeholder meetings



3. Conclusions from stakeholder meetings

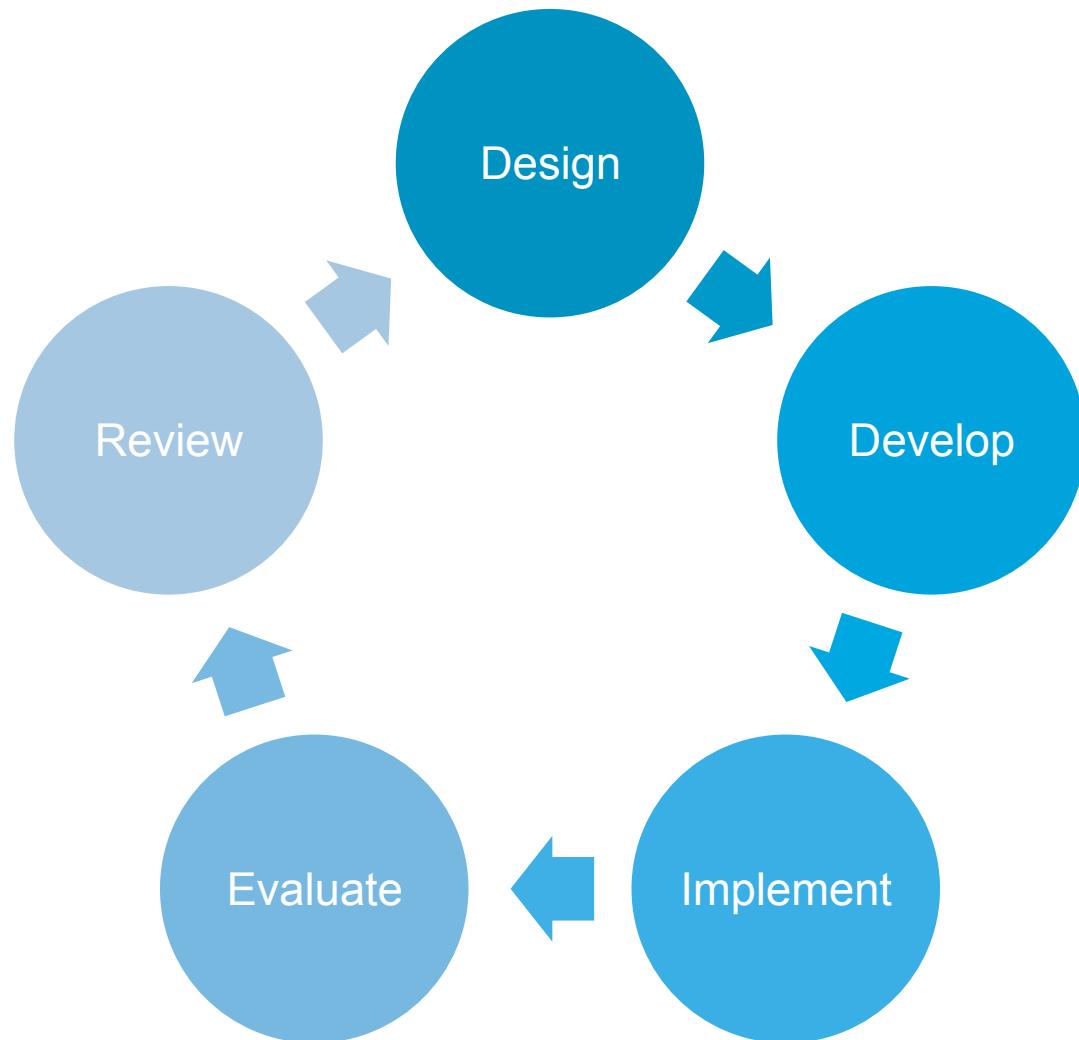


- Multi-lingual
 - Cantonese
 - Spanish
 - English
- Adaptable/Flexible
- Training Videos
- Information for supervisors





4. Curriculum Development





5. Smaller Focus Groups





6. One on one meetings





7. Surveys





Multi-lingual Training Videos





Module 1: Intro to Green Cleaning





Module 2: Dusting & Polishing





Module 3: Floor Care – Cleaning





Module 4: Floor Care – Resurfacing





Module 5: Carpet Care





Module 6: Restrooms





Module 7: Kitchen/Food Areas





Module 8: Closing & Thank you





Custodial Training Videos

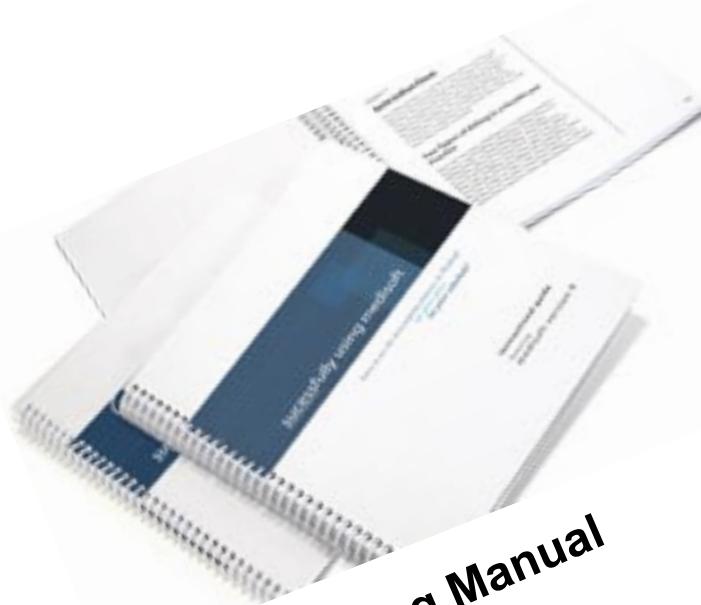
- <http://www.sfenvironment.org/sf-green-cleaning-videos-english>

*please click on **highlights***

- http://www.youtube.com/watch?v=CY_kTbUBoQo&feature=player_embedded



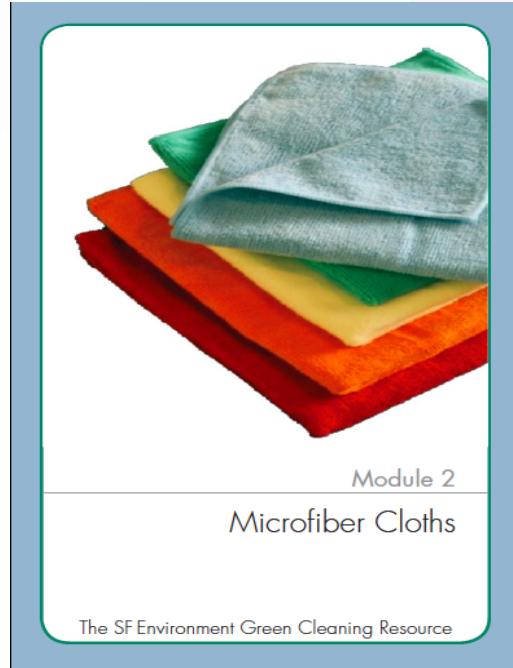
Supplemental Multi-lingual Material



Training Manual



Factsheets



Flash Cards



Pilot Program

Profile of participating programs

- 2 Large Companies: 101-170 Employees
- 2 Medium Companies: 20-100 Employees
- 2 Small Company: 2-19 Employees



Profile of participating programs

- Several Spanish and Cantonese speaking custodians
- Why Participate?
 - Hands on training and consultation
 - Show case business
 - Health of employees



Live Training





Review and Recommend Products





Product Recommendations





SFApproved List

Products that meet San Francisco's
Health and Environmental Requirements

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Custodial and Company Survey

Baseline Survey Questions for Custodial Staff

General Information

1. Are you a fulltime employee?
2. Are you part of a Union?
3. How long have you been a custodian?
4. What is your age range?
20-30
30-40
40-50
50-60
60+

Health

1. Do you have asthma?
2. Do you have any respiratory disease?
3. Are you sensitive to smells?
4. Have you had any chemical burns at work?
5. Do you get itchy or watery eyes from the products you use while at work?
6. Have you had any skin rashes from the products you use while at work?
7. Have you experienced any headaches, dizziness, and nosebleeds at or from work?

Work

1. Do you wear proper protective equipment when working with chemicals?
2. Are you able to work in properly ventilated areas?
3. Do you have access to green cleaning products?
4. Do you like using green cleaning products?
5. Do you properly dispose of cleaning products?
6. Do you properly store cleaning products?

Baseline Survey Questions for Custodial Company

Company Information

1. Name
2. Address
3. Phone number
4. Website
5. Email
6. Manager

7. What percentage of your clients are in San Francisco?
8. Does your company clean primarily residential or commercial spaces?
a. Offices? Hospitals? Schools? Restaurants?
Do you train your staff?
Do you use visuals, manuals and/or hands-on training?
Do you repeat training (over x period of time) to account for any updated cleaning
procedures and procedures?
Do you train your staff - new vs. retained?

Does your staff speak

(product line)

janitorial chemical products?
cleaning products?

properly stored and sealed



Custodial Survey

- Access to green cleaning products- 97%
- Like using green cleaning products- 97%
- Thought green cleaning products work as well as traditional- 80%



Green Business Standards



SAN FRANCISCO GREEN BUSINESS

Click on links for helpful tips.

A [Solid Waste](#)

B [Energy Conservation](#)

C [Water Conservation](#)

D [Pollution Prevention](#)

F [General/Staff Education](#)

San Francisco Green Business Program Standards **JANITORIAL**

instructions

- ➊ In order to qualify as a San Francisco Green Business, you must be in compliance with environmental regulations and implement the minimum requirements of this checklist.
- ➋ This checklist is for your review only. When you are ready to apply, please submit the enrollment form and checklist at www.greenbusinessca.org and remember to save your work regularly.
- ➌ In cases where the measures on this checklist are not entirely applicable, we may ask your business to implement additional practices customized for your business.
- ➍ This hand icon indicates that you will need to provide additional information so we can compute the environmental savings of your business (GHG reduced, gallons of water saved, kWh saved, etc)

REQUIRED ITEM **Bold** items indicate a required measure in SF and must be completed, if applicable.

Solid Waste

Waste Diversion

total measures needed: 3

A-01 Designate a recycling coordinator(s) to take responsibility for monitoring/maintaining proper waste diversion and conducting ongoing education.

A-02 Divert all compostable and recyclable materials from landfill to demonstrate compliance with San Francisco's Mandatory Composting and Recycling Ordinance (www.sfenvironment.org/mandatory).
 Do you pay your own garbage bill (yes or no)? If yes, please provide the level of service you receive (number of bins, capacity, pickup frequency)
 How many employees does your business have at the certified location? (Leave blank if already entered for previous measure.)

A-03 Offer recycling and composting collection services for customers that do not currently recycle.

a-04 Recycle film plastics. (plastic wrap, bags etc)

Source Reduction

total measures needed: 9

A-05 Keep a stack of previously used paper near printers. Use it for scratch paper or internal memos, make it into

Questions?



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www.SFAApproved.org



Precautionary Principle



- ≠ Is it legal?
- ≠ Is it safe?

= Is it necessary?