

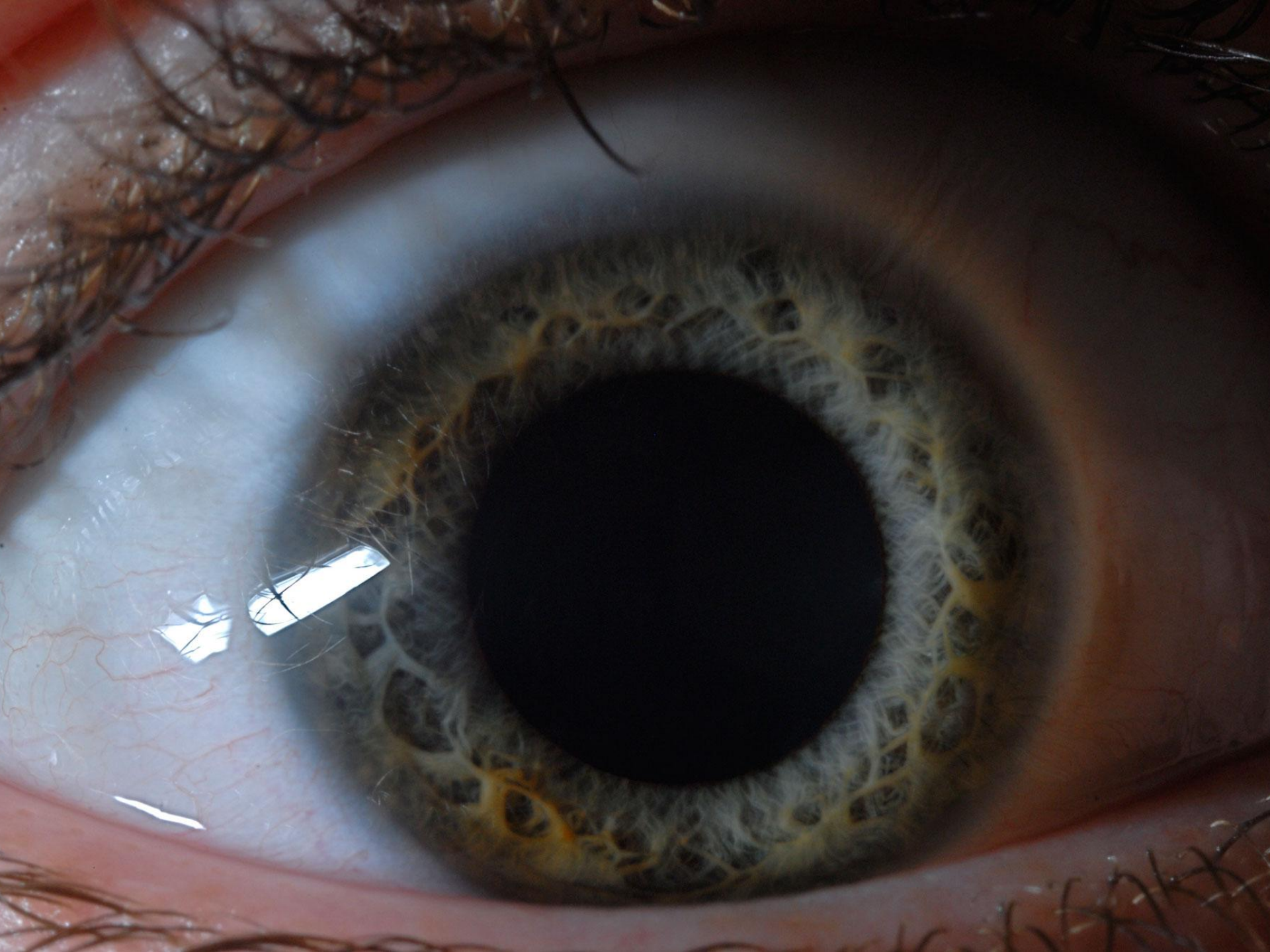
Green Cleaning in San Francisco



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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]

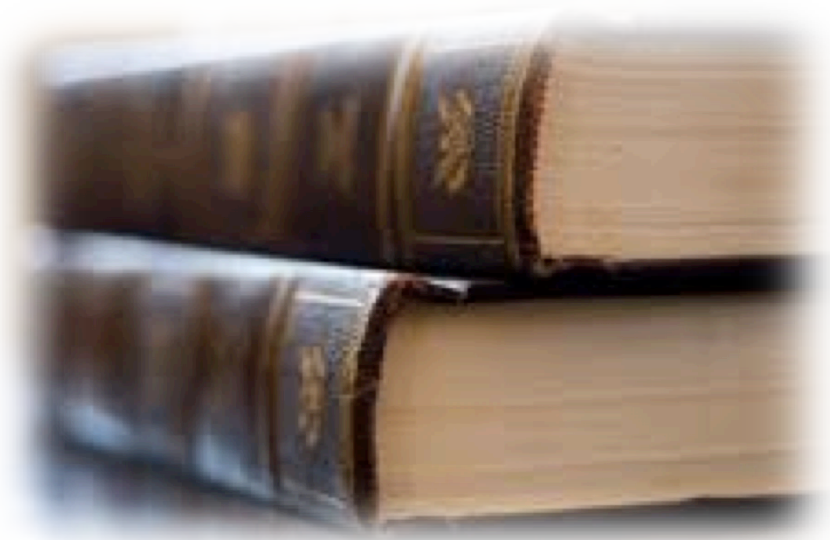
Green cleaning with SF's municipal staff



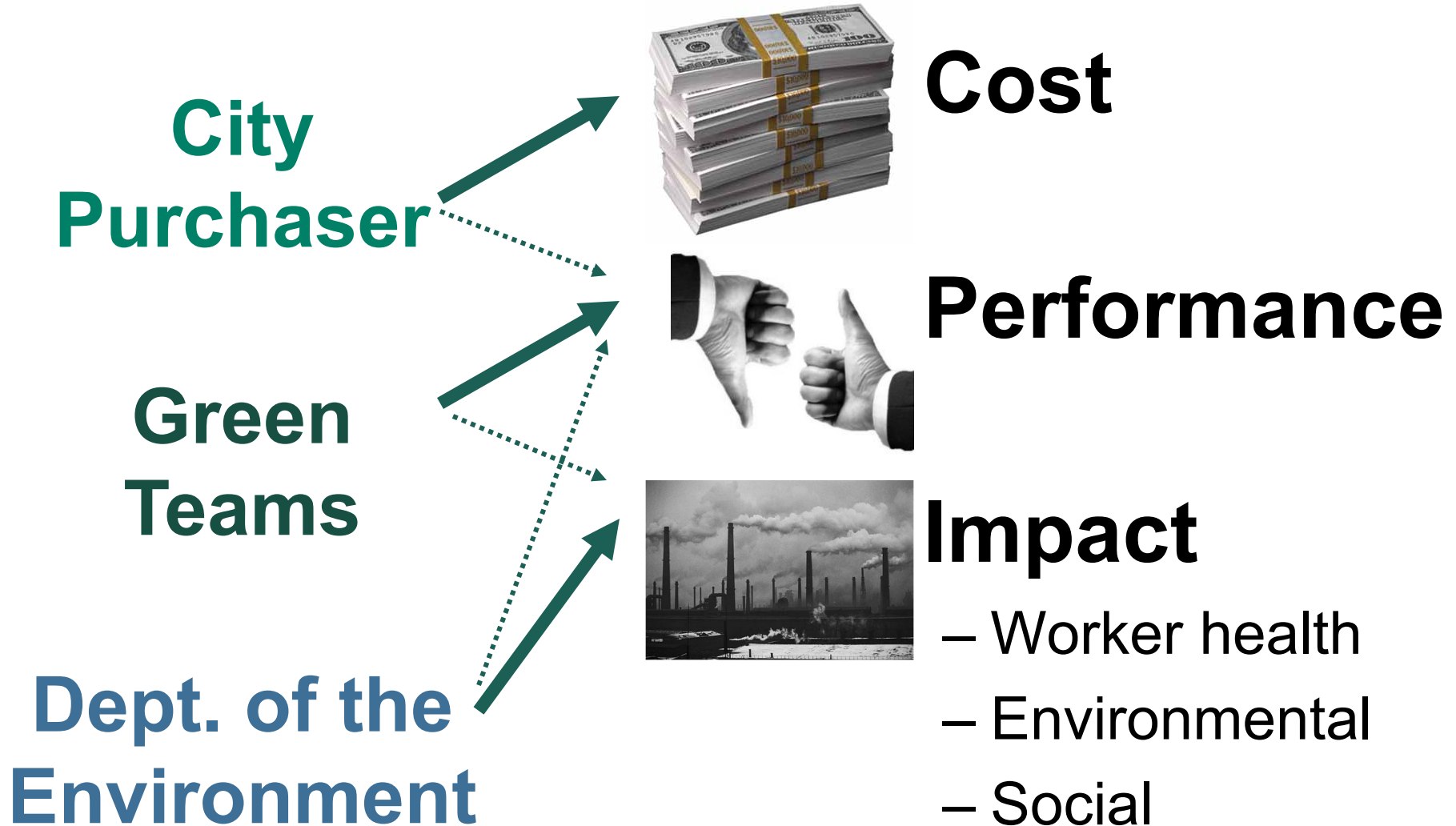


2005 Ordinance Requirements

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



Program Structure





SF Approved List

Products that meet San Francisco's
Health and Environmental Requirements

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Choosing the right product is easy when you have the City's help. In keeping with San Francisco's commitment to the [Precautionary Principle](#), the Board of Supervisors passed legislation in 2005 [requiring City staff to buy from an approved list of environmentally preferable, or "green," products](#). San Francisco Department of Environment created the SF Approved List to share the best in authoritative green purchasing information within City government and with the world at large. [To create the List, we review ingredients, recycled content, energy efficiency, product reviews from City staff, and more.](#)

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Stakeholder participation



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



Metrics

					Bathroom cleaner	Degreaser		General purpose cleaner		Glass cleaner	Paper towels		Toilet seat cover	Toilet tissue				
Dept. & Staff	green by staff	\$ by staff	green by dept.	\$ by dept.	required	required	prohibited	required	prohibit ed	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





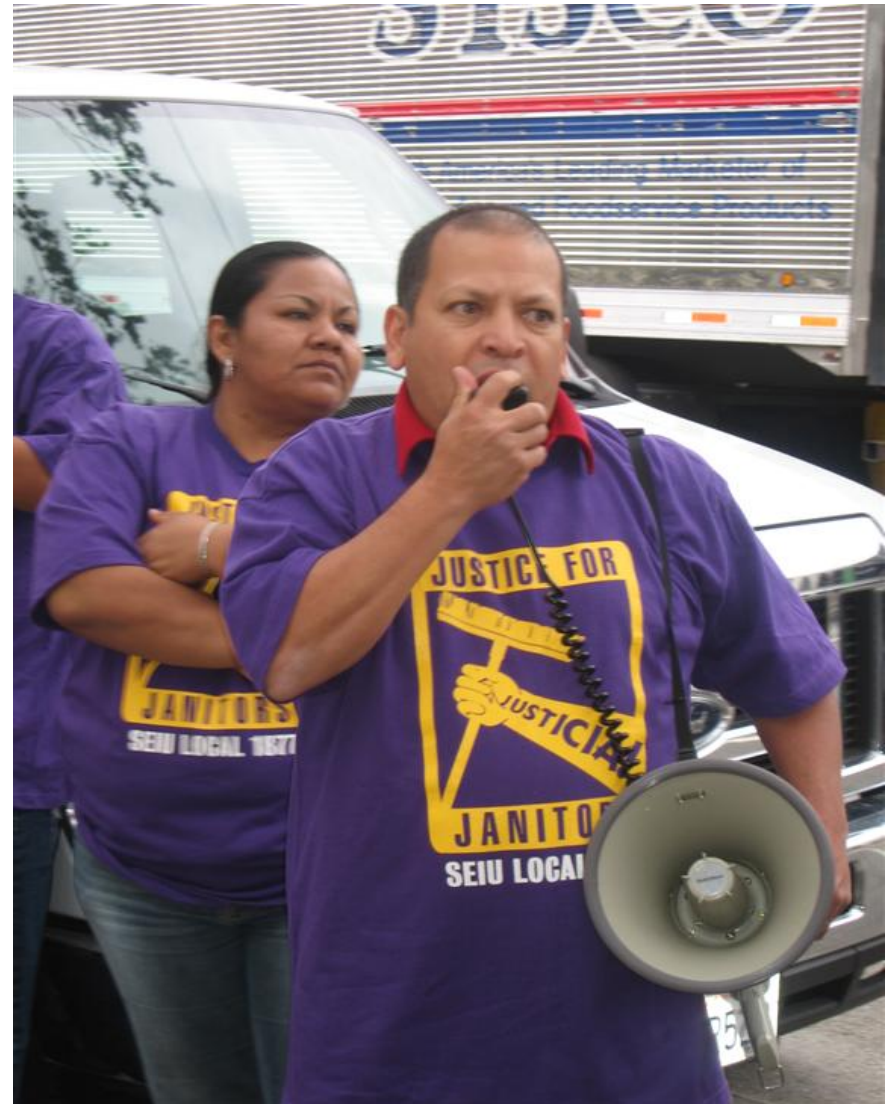
Product Cost (cont'd)

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

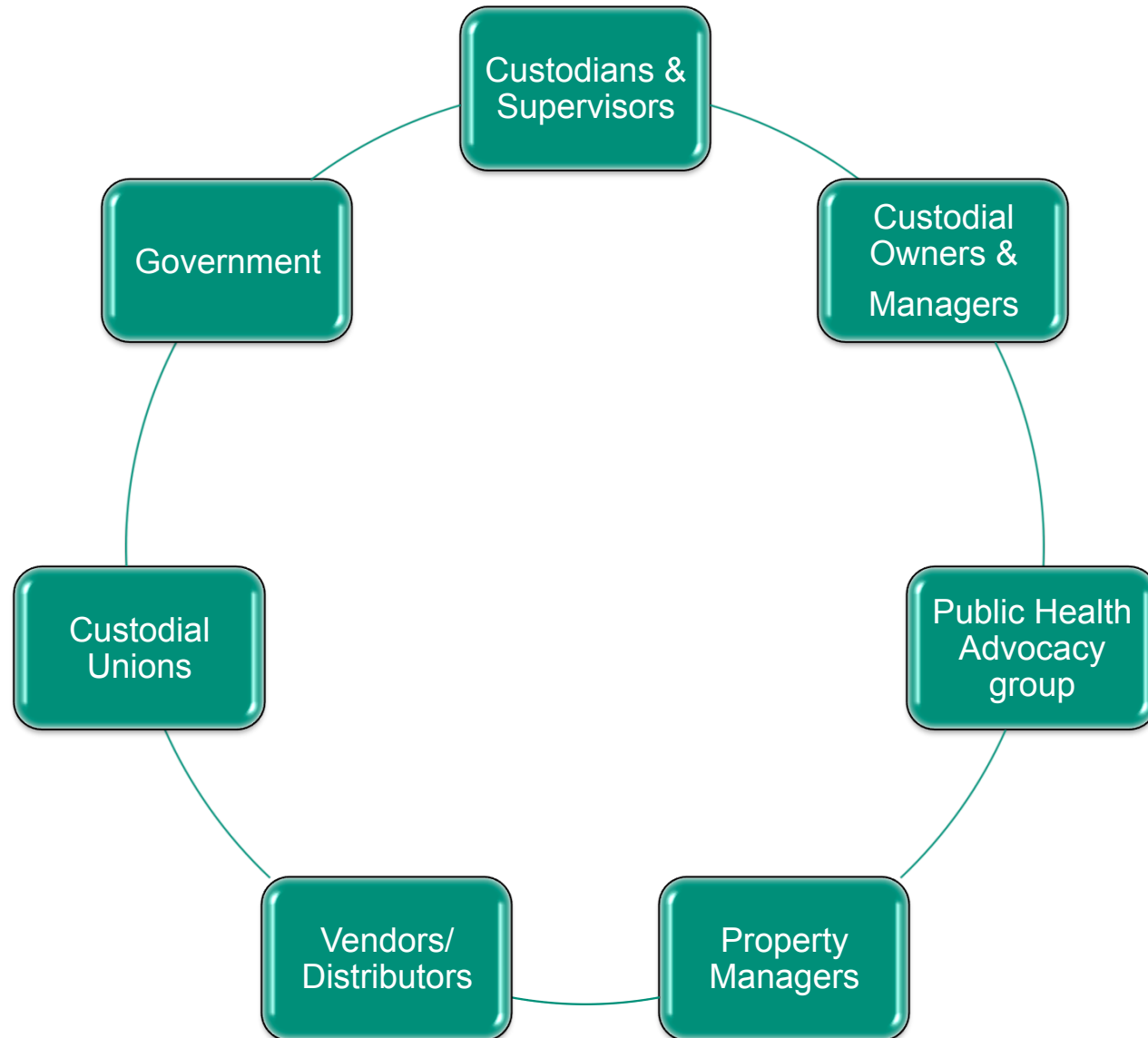


SF's Commercial Custodial Companies





1. Stakeholder Group





3. Conclusions from stakeholder meetings

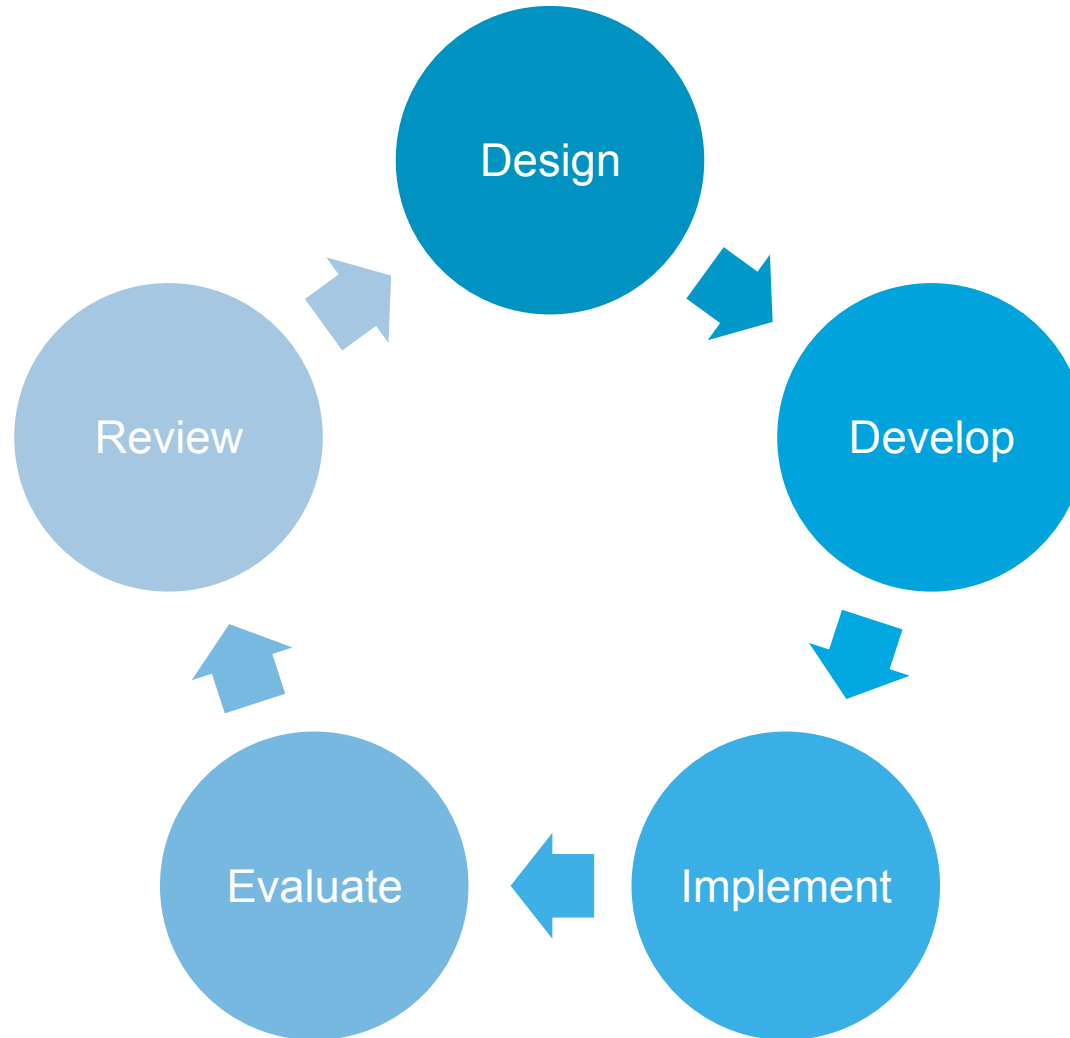


- Multi-lingual
 - Cantonese
 - Spanish
 - English
- Adaptable/Flexible
- Training Videos
- Information for supervisors





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



Module 2
Microfiber Cloths

The SF Environment Green Cleaning Resource

Flash Cards



Factsheets

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







Product Recommendations





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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?
9. If you clean commercial spaces, what types
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
policies and procedures?
Do you train your staff – new vs. retained?

How many employees speak

product line)

Sanitary chemical products?
Cleaning products?

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**
- 1 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.
 - 2 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.
 - 3 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.
 - 4  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.SFApproved.org

Precautionary Principle



≠ Is it legal?

≠ Is it safe?

= Is it necessary?