CLEAN
by
Design

Linda E. Greer, Ph.D.
Natural Resources Defense Council
Oct. 22, 2013

The curtain is rising

Dirty Laundry
Unravelling the corporate connections to toxic water pollution in China
GREENPEACE

Toxic Threads: Polluting Paradise
A story of big brands and water pollution in Indonesia
GREENPEACE

Sustainable Apparel's Critical Blind Spot
Friends of Nature, Institute of Public and Environmental Affairs, Green Beagle, Envirofriends, Nanjing Green Stone
October 2012

Toxic Threads: Putting Pollution on Parade
How textile manufacturers are hiding their toxic trail
GREENPEACE
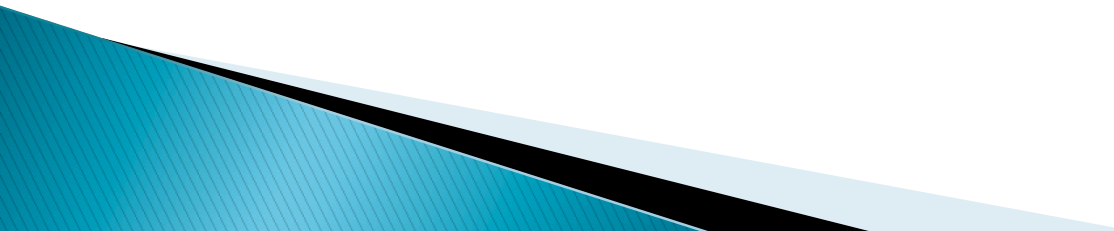
Green Choice Apparel Supply Chain Investigation – Draft Report
Cleaning up the Fashion Industry
Friends of Nature
Institute of Public & Environmental Affairs
Green Beagle
Environmental Protection Commonwealth Association
Nanjing Green Stone Environmental Action Network

Key Issues for Responsible Suppliers

- Compliance with discharge standards

- Chemical use

- Energy and water use

- Information disclosure and transparency

What are NRDC's 10 Best Practices?

CbD Ten Best Practices

Basic, widely applicable, and low-cost

ROI of each B.P. → ≤ 1 year, with continuous savings afterwards

Factories with Savings		Factories with Savings	
1. Leak detection, maintenance, housekeeping	41%	6. Optimize boiler efficiency	45%
2. Reuse cooling water	45%	7. Maintain steam traps and system	91%
3. Reuse condensate	68%	8. Recover heat from hot air	77%
4. Reuse process water	50%	9. Insulate tanks and equipment	77%
5. Recover heat from hot water	41%	10. Optimize compressed air system	91%

*The payback periods for our best practices are all less than a year

Showcase Mills

	Factory type	Annual production (Tonnes)	Year Established	% Water Reduction Possible	% Energy* Reduction Possible	% Electricity Reduction Possible**	Cost (USD)	Return on Investment (years)
(A)	Knitted Fabric	33,229	1997	8.1%	17.1%	1.2%	709,965	0.4
(B)	Knitted Fabric	33,229	1997	NA	1.4%	1.4%	269,982	0.5
(C)	Denim	28,604	2010	3.2%	4.6%	7.5%	139,407	0.9
(D)	Fiber & Woven Fabric	23,875	2002	0.8%	3.6%	0.9%	261,309	0.8
(E)	Denim	17,937	2003	2.1%	15.0%	1.5%	427,525	0.7
(F)	Denim	15,000	2010	21.3%	8.8%	3.7%	129,472	0.4
(G)	Knitted Fabric	12,217	1990	1.5%	7.3%	NA	49,502	0.3
(H)	Woven Fabric	10,000	1994	24.3%	11.0%	NA	101,981	0.1
(I)	Denim	9,473	2005	36.4%	10.7%	14.9%	139,565	0.6
(J)	Fiber	8,800	2002	5.3%	21.2%	3.0%	196,542	0.3
(K)	Fiber	8,724	2000	0.1%	24.4%	0.8%	234,500	0.6
(L)	Denim	8,580	2003	21.0%	16.1%	1.4%	110,548	0.5
(M)	Fiber	6,790	2006	10.3%	5.0%	0.8%	72,558	0.7
(N)	Fiber	6,684	2003	0.2%	35.5%	2.8%	372,645	0.6
(O)	Woven Fabric	5,655	2004	1.1%	3.9%	2.3%	94,620	0.9
(P)	Woven Fabric	5,000	1989	13.1%	8.1%	0.3%	34,000	0.1
(Q)	Fiber	3,956	1993	1.0%	11.2%	6.8%	83,786	0.9
(R)	Denim	3,400	2004	0.5%	6.7%	5.1%	94,147	0.5
(S)	Woven Fabric	2,895	2004	45.3%	26.1%	2.9%	161,643	0.8
(T)	Woven Fabric	1,757	2010	NA	44.7%	3.8%	101,732	1.0
(U)	Fiber	1,200	2005	4.8%	21.2%	15.4%	80,585	1.0
(V)	Fiber	506	2010	NA	34.7%	1.3%	119,379	0.5

Results

Factory type	Annual Production (Tonnes)	Year Established	% Water Reduction Possible	% Energy Reduction Possible	% Electricity Reduction Possible	Cost (USD)	Return on Investment (months)
Knitted	12,000-33,000	1990-1997	1.5-8.1	1.4-17.1	1.2-1.4	$50,000-$710,000	4-6
Woven	1,800-10,000	1989-2010	1.1-45.3	11.0-44.7	0.3-15.4	$30,000-$160,000	1-12
Denim	3,400-29,000	2003-2010	2.1-45.3	4.6-15.0	1.4-14.9	$94,000-$428,000	5-10
Fiber	500-8,800	1993-2012	0.1-10.3	11.2-35.5	0.8-15.4	$73,000-$373,000	4-12

Lessons Learned from mills

To bring to scale...

Best Practices are widely applicable and effective

Mills learn best from each other → Work in city with high concentration of mills

Need for reliable environmental performance data → Promote dialogue on data disclosure with progressive local government officials

Chinese government five-year plans could have big impact on promoting industry improvements → Identify cities with ambitious five-year plans

Lessons Learned with Multinational Partners

Brands lack adequate sourcing/supply chain policies to drive improvement

Few brands assess compliance at fabric mills, much less drive eco-efficiency improvements

Create clear criteria for basic compliance; benchmarks for going beyond compliance

Brands have direct business connections with Tier One garment factories, not Tier Two fabric mills

Brands must map supply chain, including Tier Two

Separation between CSR and sourcing works against improvement

Sourcing departments must become more involved

Create internal incentives to increase reliance on preferred suppliers

CbD Cities Initiative

Goal: Bring CbD to scale

In collaboration with:
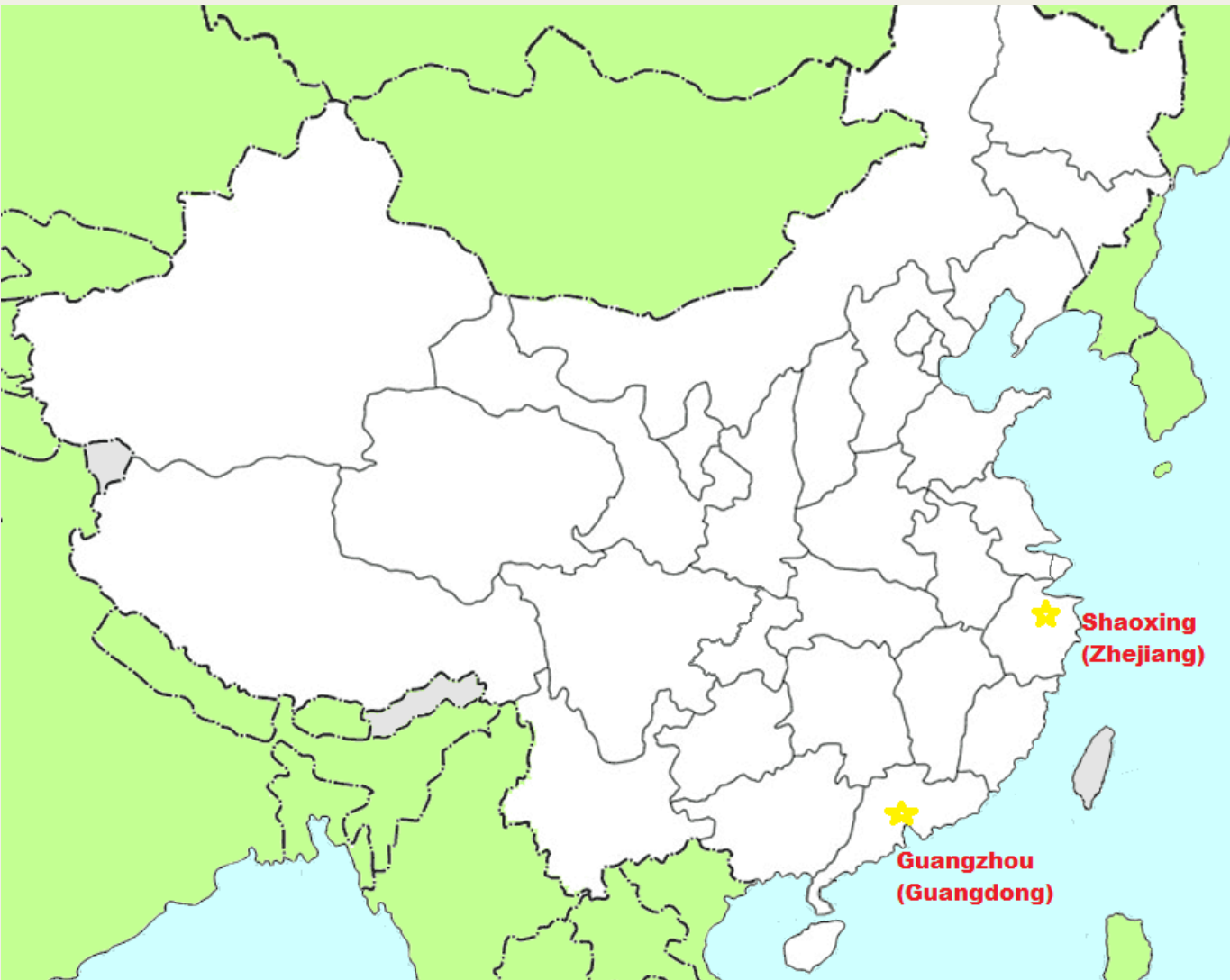
Steps in the Cities Initiative: Implementation

Require participating mills to submit baseline performance data → Require mills to submit implementation plans → Conduct final assessments, document improvements

NRDC Host educational workshops on environmental basics and Ten Best Practices

NRDC facilitate access to experts, and support from leading textile mills
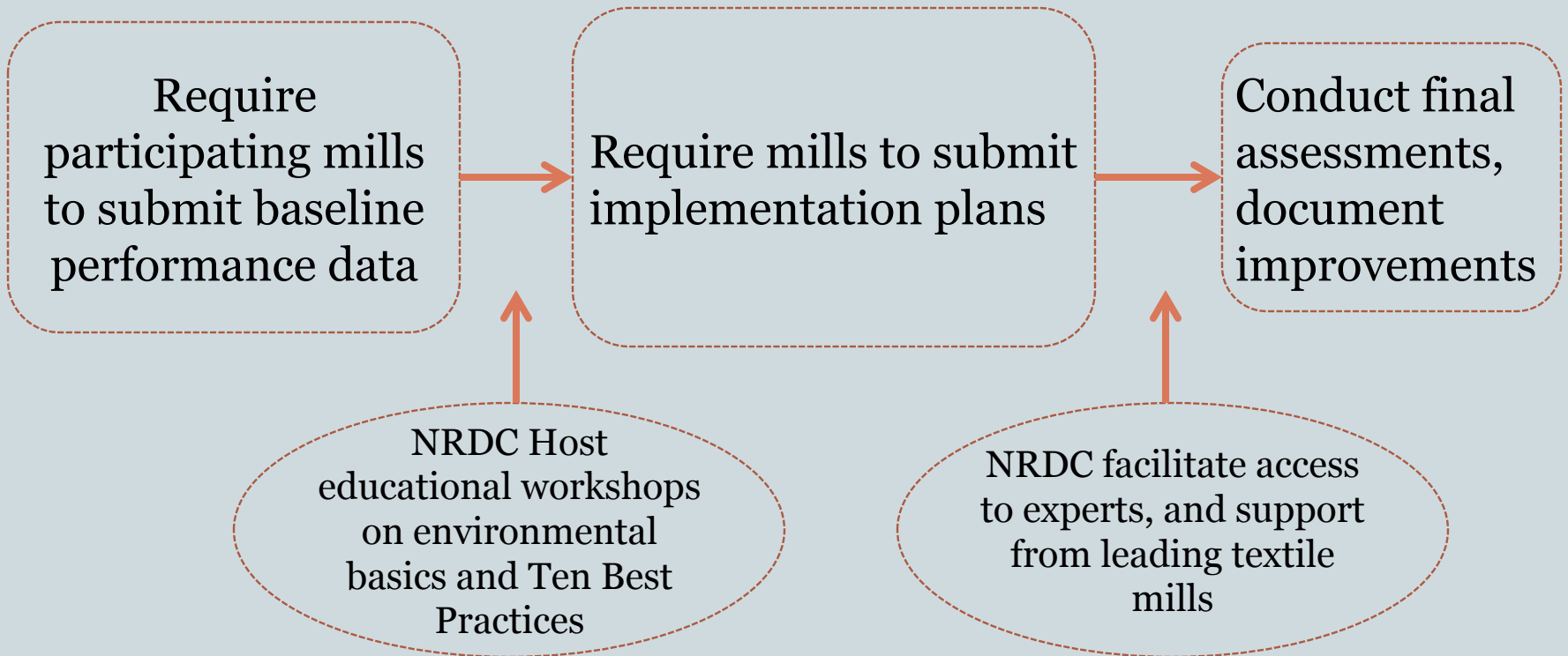
Facility Benchmarking:
Sustainable Apparel Coalition

Sustainable Apparel Coalition

Supplier Facility Module
No Supplier/Facility Entered

OVERALL FACILITIES SCORE

0 / 100

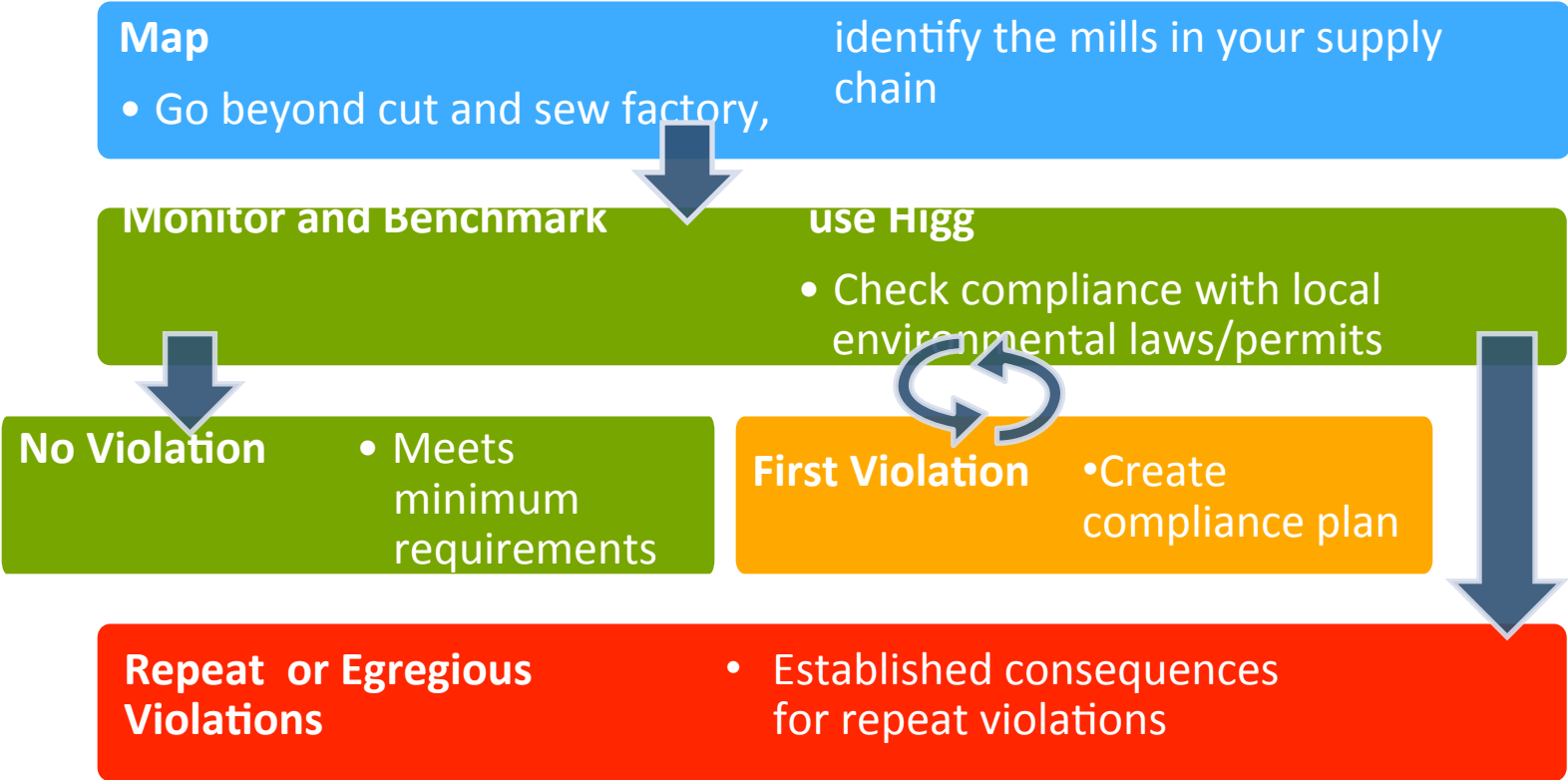*Score Updated Automatically as Questions Answered*

CONFIDENTIAL - DO NOT DISTRIBUTE UNLESS REQUESTED BY CUSTOMER

Higg Index 1.0

SCORING SUMMARY	Actual score	Possible score
ENVIRONMENTAL MANAGEMENT SYSTEM OR PROGRAM	0	100
ENERGY USE & GREENHOUSE GAS (GHG) EMISSIONS	0	100
WATER USE	0	100
WASTEWATER/EFFLUENT	0	100
EMISSIONS TO AIR	0	100
WASTE MANAGEMENT	0	100
POLLUTION PREVENTION/HAZARDOUS & POTENTIALLY HAZARDOUS SUBSTANCES	0	100
Total	0	700

Supply Chain Policy Development – Basic Level

Map
- Go beyond cut and sew factory, identify the mills in your supply chain

Monitor and Benchmark — use Higg
- Check compliance with local environmental laws/permits

No Violation
- Meets minimum requirements

First Violation
- Create compliance plan

Repeat or Egregious Violations
- Established consequences for repeat violations

Supply Chain Policy - Level 2 Preferred Mill Program

Metering
- Metering required for program entry

Establish performance targets
- Set goals
- Implement Ten Best Practices and process improvements to reduce impact
- Establish reward/incentive program

Motivate: Reward Performance
- "Preferred" mills meet benchmarks to receive rewards

Key Ingredients of Effective Supply Chain Programs

☑ Supply chain focus is beyond Tier One.

☑ Fabric mills are benchmarked through Higg.

☑ Compliance is mandatory.

☑ Resource usage is tracked and minimized.

☑ There is public disclosure and accountability.

☑ Environmental results are important to supplier qualification and selection, good performers awarded "preferred" status.

THANK YOU
lgreer@nrdc.org