National Association of Environmental Managers

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Photo Courtesy NASA

GLOBAL CYCLES

Realizing Business Advantage from Industrial Ecology Initiatives in a Multinational Value Chain

Phil Berry [Nike], Barry Naone [Nike], Bill Malloch [Nike]
and Joe Rinkevich [JPR LLC]

THESIS

Industrial ecology initiatives in off-shore manufacturing operations can establish an infrastructure for innovation in addition to enhancing environmental performance.

AGENDA

- IE in the Nike Context
- Nike IE Timeline
- Specific Nike IE Cases
- IE as Emerging Market Innovation Engine
- Industrial Ecology (IE) in the Global Context

IE in Nike Context

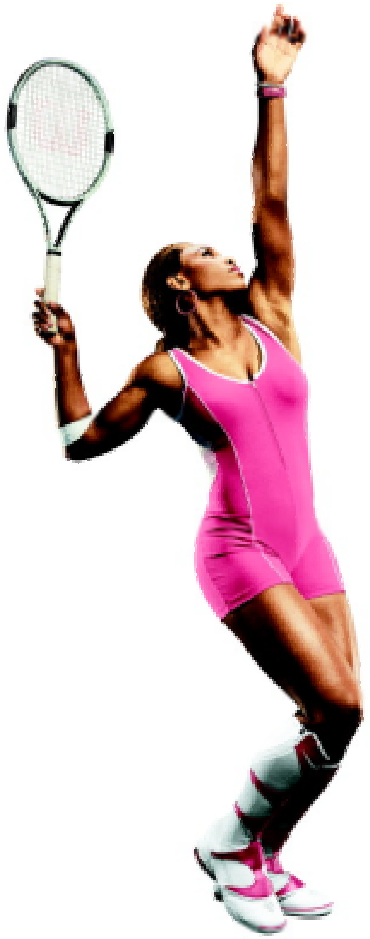
- Contract factories
- Located in emerging economies
- Varying degrees of environmental regulation
- Emerging infrastructure

Nike Background
GLOBAL WORKFORCE

Nike Background
GLOBAL CUSTOMERS

Nike Background
GLOBAL POSITIVE FORCE

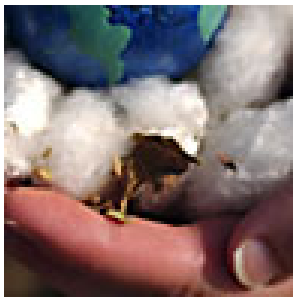
- To effect positive, systemic change in working conditions within the footwear, apparel & equipment industries
- To use sport as a tool for positive social change & campaign to turn sport and physical activity into a fundamental right for every young person; and
- To create innovative and sustainable products



Nike
ENVIRONMENTAL GOALS

Sustainable
Product/Process
Innovation

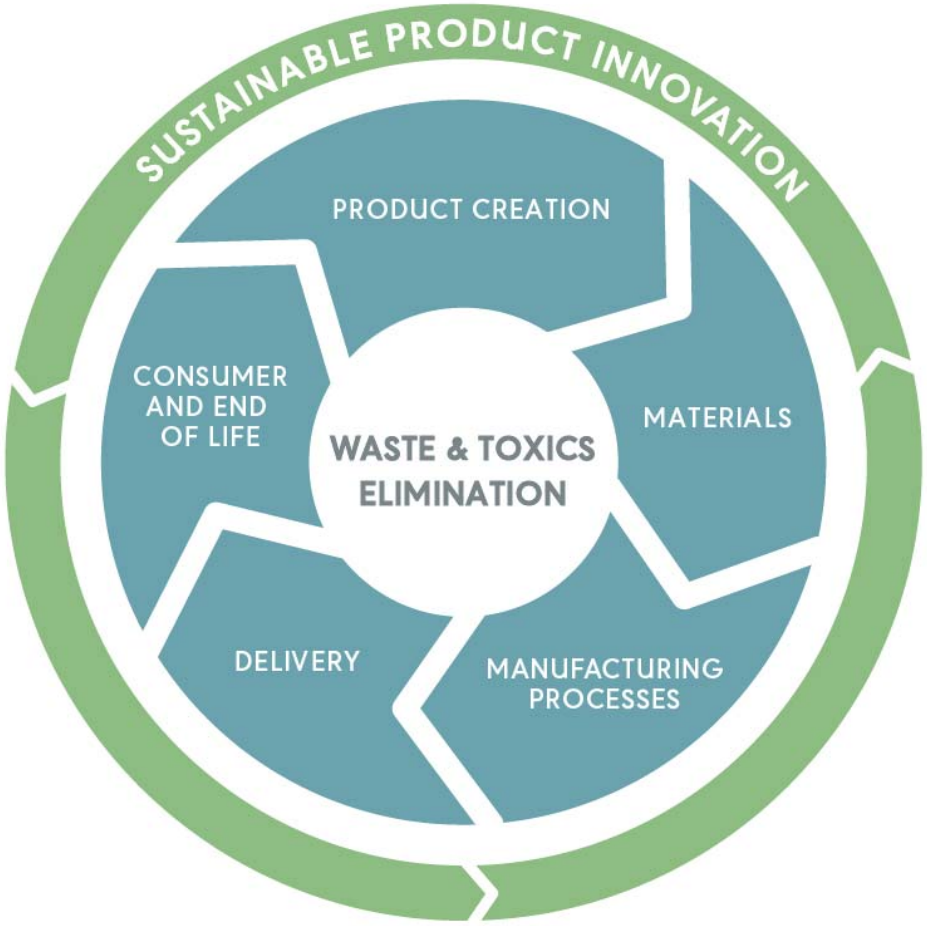
100%
Product



Positive
Product
Chemistry

Strategic Solutions

Implementing systems thinking and strategic materials management to identify business opportunity throughout the product lifecycle.



Life Cycle Matrix of Environmental Initiatives

Life Cycle Stage

Focus Area	Initiative	Product Creation	Materials	Manufacturing Processes	Delivery Packaging & Logistics	Consumer End of Life	Corporate Operations
Compliance	Restricted Substance List Program	■	■	■	■	■	■
	ESH Programs	■	■	■ *	■	■	■
	SF_6 & PFP Phase-Out	■	■	■	■	■	■
	Water Quality	■	■	■	■	■	■
	Water Conservation	■	■	■	■	■	■
	PVC Phase-Out	■	■	■	■	■	■
Eliminate Waste and Toxics	Solid Waste Elimination	■	■	■	■	■	■
	CO_2 Emissions Reduction	■	■	■	■	■	■
	Hazardous Waste Elimination	■	■	■	■	■	■
	VOC Reduction	■	■	■	■	■	■
Sustainable Material Platforms	Organic Cotton	■	■	■	■	■	■
	Environmentally Preferable Rubber	■	■	■	■	■	■
	Regenerated Content Program	■	■	■	■	■	■
	Renewable Content Program	■	■	■	■	■	■
Packaging & Shipping	Packaging	■	■	■	■	■	■
Waste as a Business Opportunity	Recovered Product	■	■	■	■	■	■

■ IMPLEMENTED PROGRAM ■ FUTURE OPPORTUNITY ■ (NOT MATERIAL): ASSESSED AS LOW IMPACT/ SIGNIFICANCE, WELL BEYOND OUR ABILITY TO INFLUENCE TODAY, OR IMPACT DOES NOT ARISE AT THIS STAGE OF THE LIFE CYCLE

*SEE LABOR

Nike IE Evolution

1993

Environmental Action Team (NEAT)

Reuse-A-Shoe

1995

Replacement of VOCs with waterbased alternatives

1996

Waste incinerators banned

Beginning of work with The Natural Step

1997

Environmental Engineering Presence in Asia Established

Materials Recovery Infrastructure Initiated in Asia

1998

PVC phase-out announced

Nike Grind license agreements announced

Water treatment initiative

1999

Nike Footwear Sustainability and Apparel Sustainability established

2000

Nike endorses CERES Principles

Restricted Substance List (RSL) announced

2001

Recycled PET in apparel

Long-term environmental goals established

2002

Environmentally Preferred Rubber Introduced

2004

Waste Incinerators Off-line

2005

Nike Considered Launched

ReUse-A-Shoe Goes Global

Nike IE Evolution

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VOC Reduction Program

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Wastewater treatment

Introduced

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2003

Material Recovery - Waste Incinerators Off-line

Introduced

Materials recovery infrastructure initiated in Asia

ReUse-A-Shoe Goes Global

Clean Water

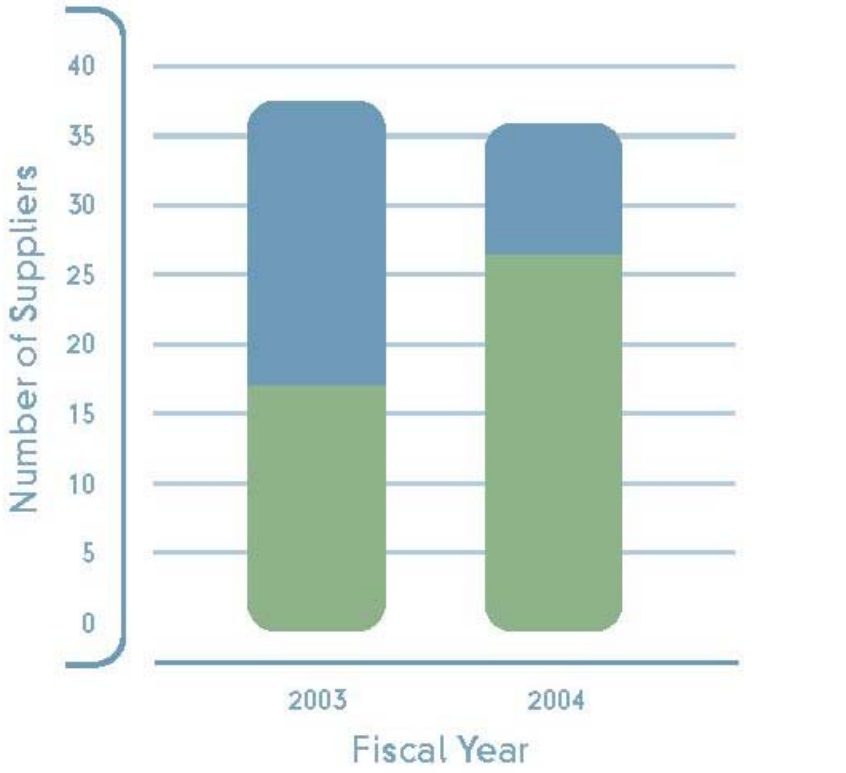
CHALLENGE	Insufficient Infrastructure
ACTION	Nike and Contract Manufacturing Partners collaborate to establish waste water treatment facilities
VALUE	Protect area water quality by establishing infrastructure to meet local regulations

Clean Water

- At and near contract factories learned most water quality impacts are from domestic uses at and near factories
- Established quarterly water quality monitoring
- Created access to compliant water treatment facilities for Nike Footwear 'Inline Facilities'

Chart C

Contract Footwear Factories Compliance with Local Wastewater Standards*



*Represents 95% of production

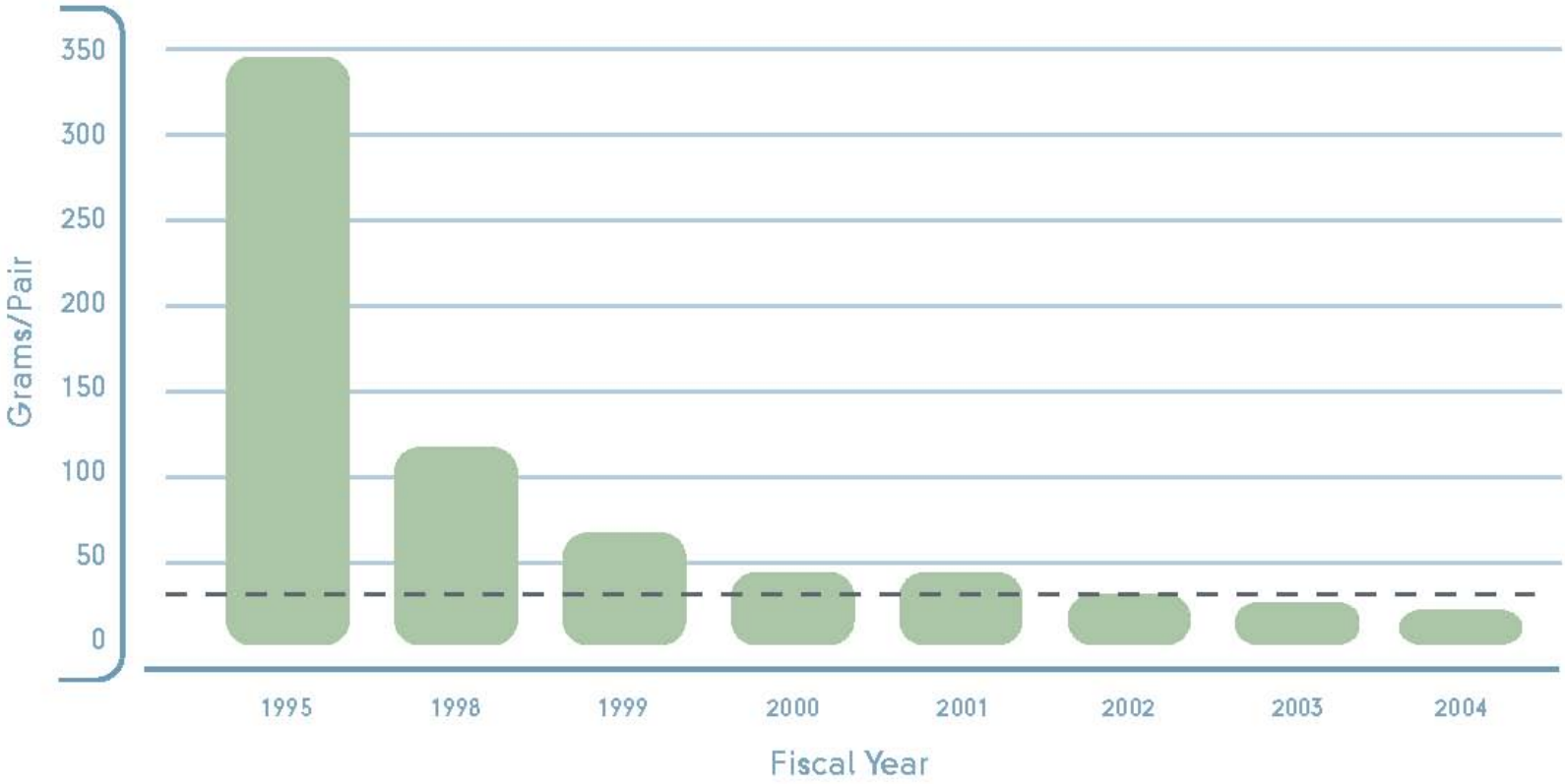
VOC Reduction

CHALLENGE	Organic compounds create health hazards and air pollution
ACTION	Reduce or eliminate solvent-based inputs
VALUE	Safer practices and industry leadership

VOC Reduction

- Establish systems to collect data and develop replacements
- Create replacement solutions in collaboration with suppliers and contract factories
- Build on success from manufacturing improvements in product design strategies

Footwear Volatile Organic Compound (VOC) Solvent Usage



- *Baseline in 1995 estimated from chemical usage records.*
- *1995 goal to reach 90% reduction obtained in 2002.*

Source: Self-reported data from contract factories.

Materials Recovery

CHALLENGE	Insufficient Infrastructure
ACTION	Establish system for contract footwear factories
VALUE	Strategic management for maximized value recovery

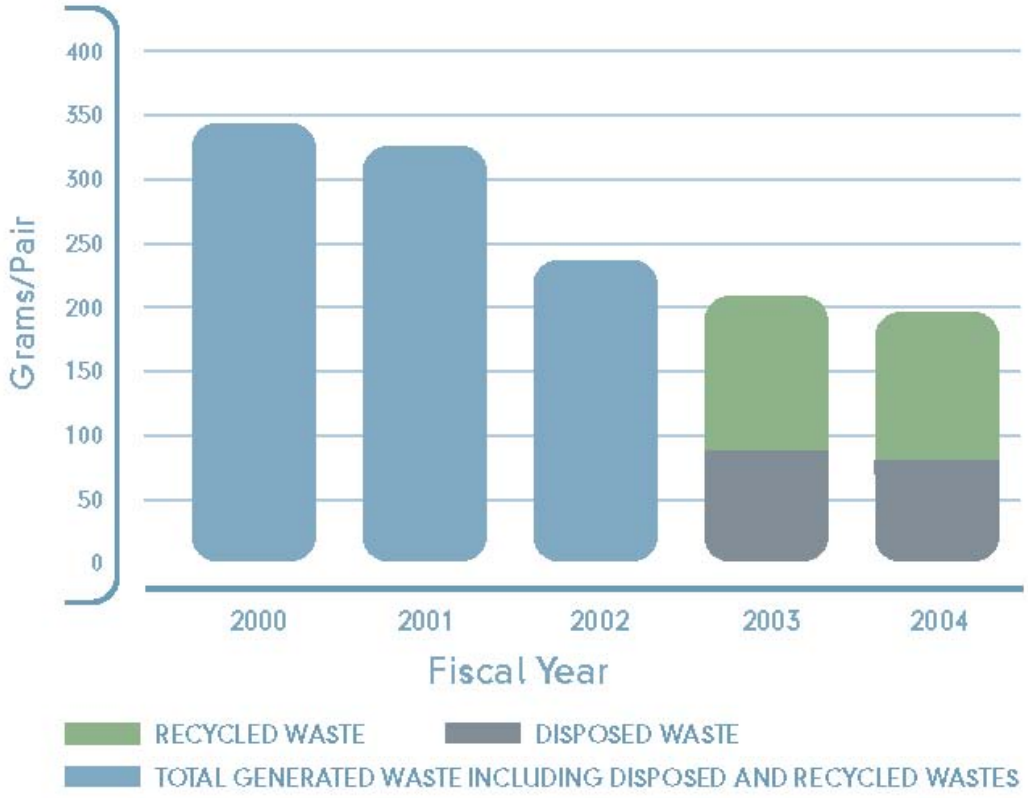
Materials Recovery

- Eliminated on-site incineration
- Established materials management mindset/culture
- Increased uncontaminated materials streams

Materials Recovery

Vietnam

Footwear Product-Related Solid Waste



Note: The breakdown between recycled and disposed waste was not tracked until FY03.

Source: Factory monthly self-reporting.

IE as Innovation Engine at Nike

WATER	IE mindset established need for clean water in contract factories
VOCs	Systems perspective inspired practices and industry leadership in VOC reduction and replacement
MATERIALS	Lifecycle thinking identified materials management infrastructure improvements for value recovery
DESIGN	SPI drives the process of integrating IE into Nike's business and product lifecycle

IE in Global Context

- Industrial ecology efforts become increasingly complex in a multinational value chain
- Strategy implementation across borders, distance, cultures and political systems create challenges *and* opportunities
- Nike's culture of innovation has enabled several IE successes despite global challenges

www.nikeresponsibility.com

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