

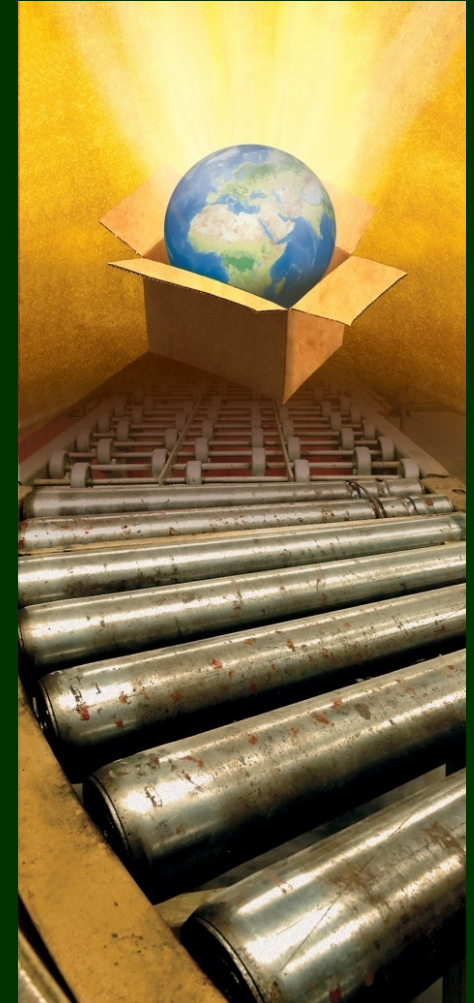
Energy, Climate Change, and the Supply Chain: Strategic Perspectives

Mike Russo

Center for Sustainable Business Practices
Lundquist College of Business
University of Oregon

Center for Sustainable Business Practices

- Greenest city, greenest state
 - Award-winning campus programs
- Four Center focus areas
 - Sustainable supply chains
 - Change & innovation
 - Life cycle analysis
 - Measurement and metrics
- Six contributing faculty members
- MBA concentration in SBP
- *Visit our website: lcb.uoregon.edu/csbp*



Avenues for Engagement

- Experiential learning projects
- Corporate partnership program
- Custom executive education
- Collaborative research
- Executives in residence
- Conference opportunities
- Internships and employment

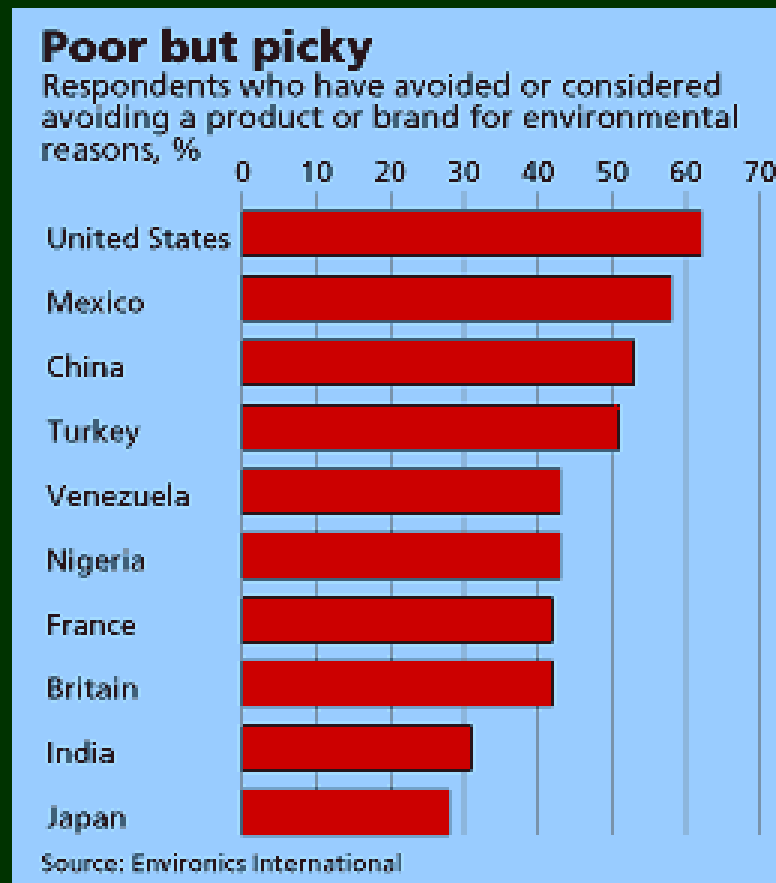


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The New Reality of the Supply Chain

- Attributes of companies that are not reflected in the products they sell now influence purchase decisions
 - Only a click away is information about a company's social and environmental performance on many dimensions
 - NGOs aggregate and disseminate this information
- Companies are being held accountable not only for their actions but those of their suppliers: *The supply chain is becoming the responsibility chain*

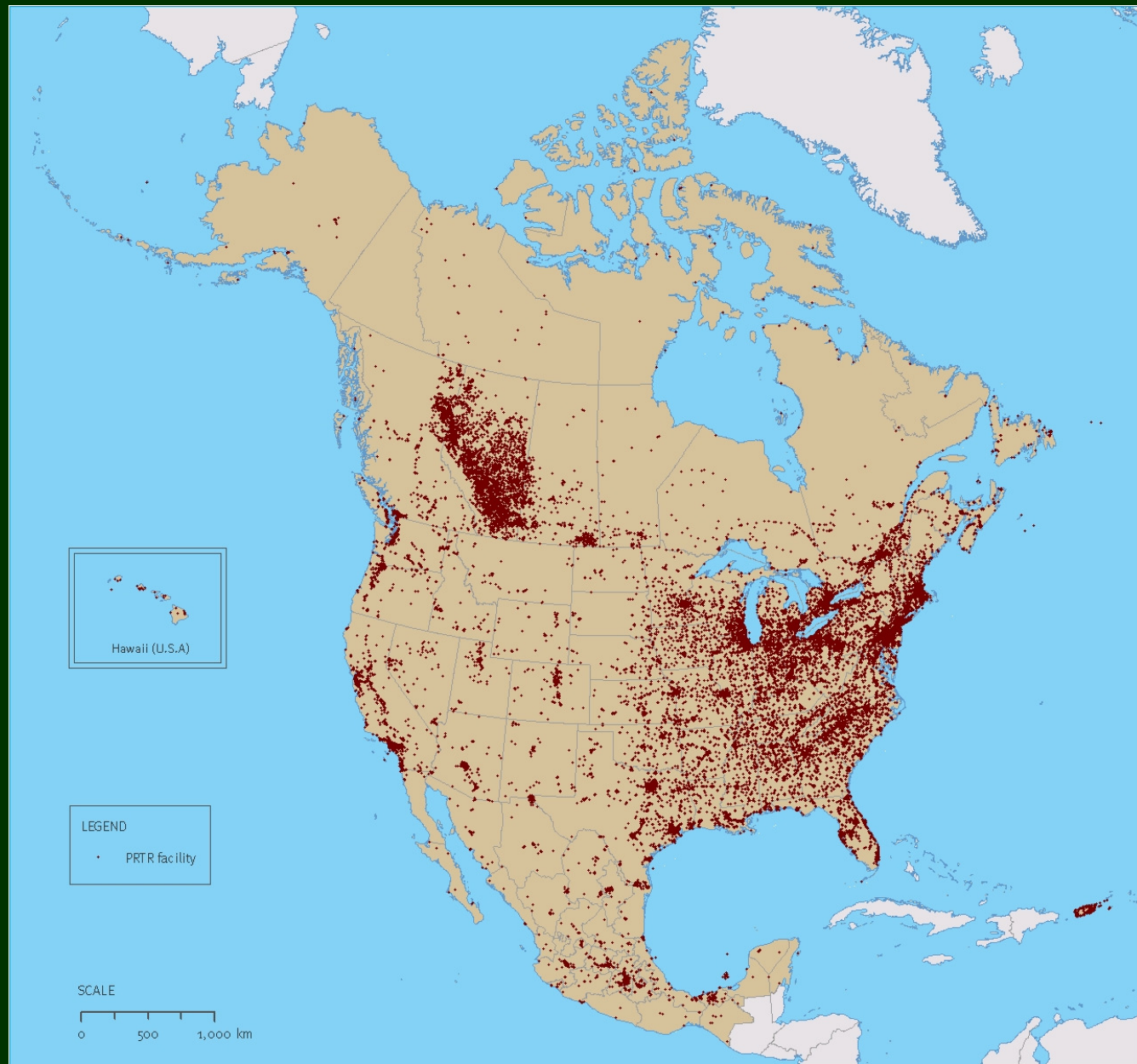
Globally, consumers are paying attention to corporate records

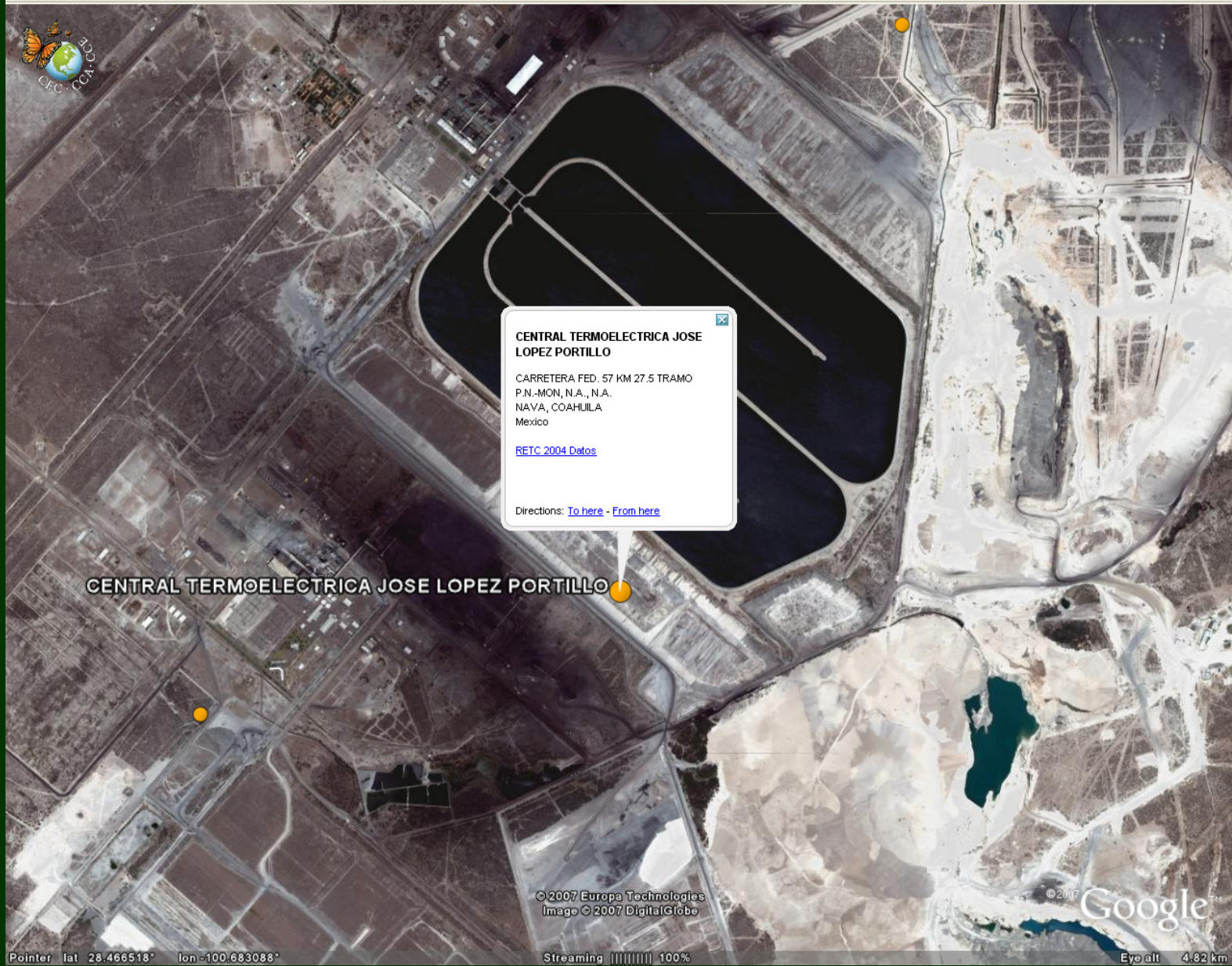


Increasingly, there are resources to provide inquiring individuals with information ... and NGOs that make it easier to do so

[UO School of Journalism and Communication and EnviroMedia Social Marketing's New Site for Evaluating Green Advertising Claims](#)

Toxic Release Reporting Sites





CENTRAL TERMÓELECTRICA JOSE LOPEZ PORTILLO
CARRETERA FED. 57 KM 27.5 TRAMO
P.N.-MON, N.A., N.A.
NAVA, COAHUILA
Mexico
[RETIC 2004 Datos](#)
Directions: [To here](#) - [From here](#)

CENTRAL TERMÓELECTRICA JOSE LOPEZ PORTILLO

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Imago © 2007 DigitalGlobe

© 2017
Google

Pointer lat 28.466518° lon -100.683088°

Streaming ||||| 100%

Eye alt 4.82 km

RESUMEN DE EMISIONES DEL ESTABLECIMIENTO

CENTRAL TERMOELECTRICA JOSE LOPEZ PORTILLO

SECTOR	GENERACION DE ENERGIA ELECTRICA
ACTIVIDAD PRINCIPAL	GENERACION DE ENERGIA ELECTRICA
ESTADO	COAHUILA
DELEGACION / MUNICIPIO	Nava
DOMICILIO	CARRETERA FED. 57 KM 27.5 TRAMO P.N.-MON
NÚMERO EXTERIOR	N.A.
NÚMERO INTERIOR	N.A.
COLONIA	N.A.
LOCALIDAD	NAVA
CODIGO POSTAL	26530
PARQUE, PUERTO INDUSTRIAL U OTRO	NA
COORDENADA UTM X	2132412
COORDENADA UTM Y	1446802
LATITUD NORTE	28°28'0''
LATITUD OESTE	100°41'0''

Contaminante		Emisiones			Transferencias						
Clave o número CAS	Descripción	Aire	Agua	Suelo	Reuso	Reciclado	Coprocesamiento	Tratamiento	Disposición final	Alcantarillado	Otros
10102-44-0	Bióxido de nitrógeno	14 052.0000									
124-38-9	Bióxido de carbono	7 904 320.0000									
57-12-5	Cianuro inorgánico/orgánico		0.0026								
7440-38-2	Arsénico		0.0004								
7440-43-9	Cadmio		0.0110								
S/C3	Cromo (compuestos)		0.0094								
S/C4	Mercurio (compuestos)		0.0004								
S/C5	Niquel (compuestos)		0.0674								
S/C8	Plomo (compuestos)		0.0183								

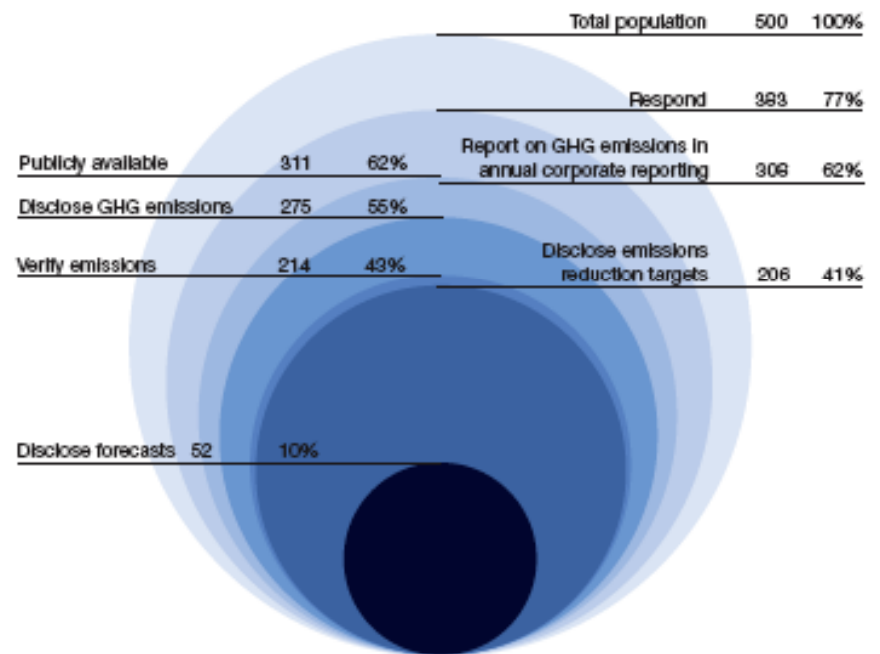
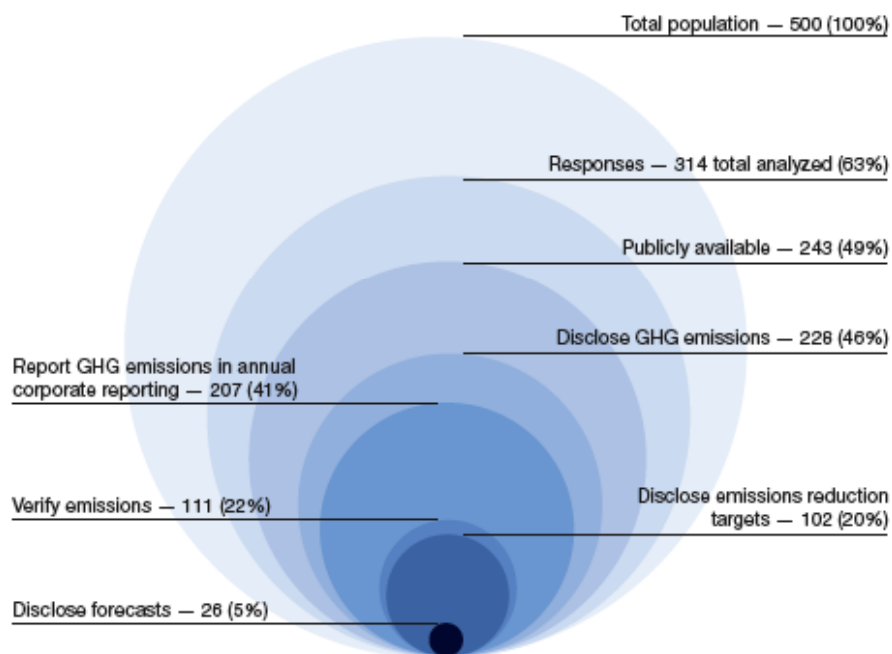
[Regresa al resultado](#)

Cantidades en toneladas métricas

Carbon Disclosure Patterns

Fortune 500

Global 500



Source: Carbon Disclosure Project

The Global Food Supply Chain

USA: High fructose corn syrup, wheat flour (produced & milled), whole grain oats, sunflower oil, strawberry puree, cellulose, red dye #40

ITALY: Malic acid

CHINA: Vitamin & mineral supplements (B1, B2, iron, folic acid), honey

INDIA: Guar gum

EUROPE: Citric acid

PHILIPPINES: Carageenan

DENMARK: Lecithin (soy)

SCOTLAND: Sodium alginate



Source: *Business Week*

A Key Challenge

- Modern best value supply chains meet four objectives:
 - Low cost
 - High quality
 - Prompt deliveries
 - Enhanced flexibility
- Problem: A focus on these elements has driven companies toward episodic, arms-length relationships – especially where *product* performance is easy to measure
- But greening the supply chain is a *process-oriented task*

Managing The Human Side

- Offshore settings can produce a minefield for implementing social and environmental initiatives
 - Geographic distance
 - Cultural distance
 - Both add to supply chain complexity
 - Both raise the risks of initiatives
- One way to start: Working with suppliers to promote energy efficiency
 - Begins dialogue in an area that can be a win-win
 - Can be a way to create trust for the more difficult discussions about greenhouse gases

Greening the Supply Chain: A Platform for Supplier Cooperation

- For companies that find success....

Cooperating with suppliers on sustainability issues offers innumerable benefits

- Simple efficiencies
- Greater appreciation of risks and opportunities
- More rapid response times
- Deepening of relationships

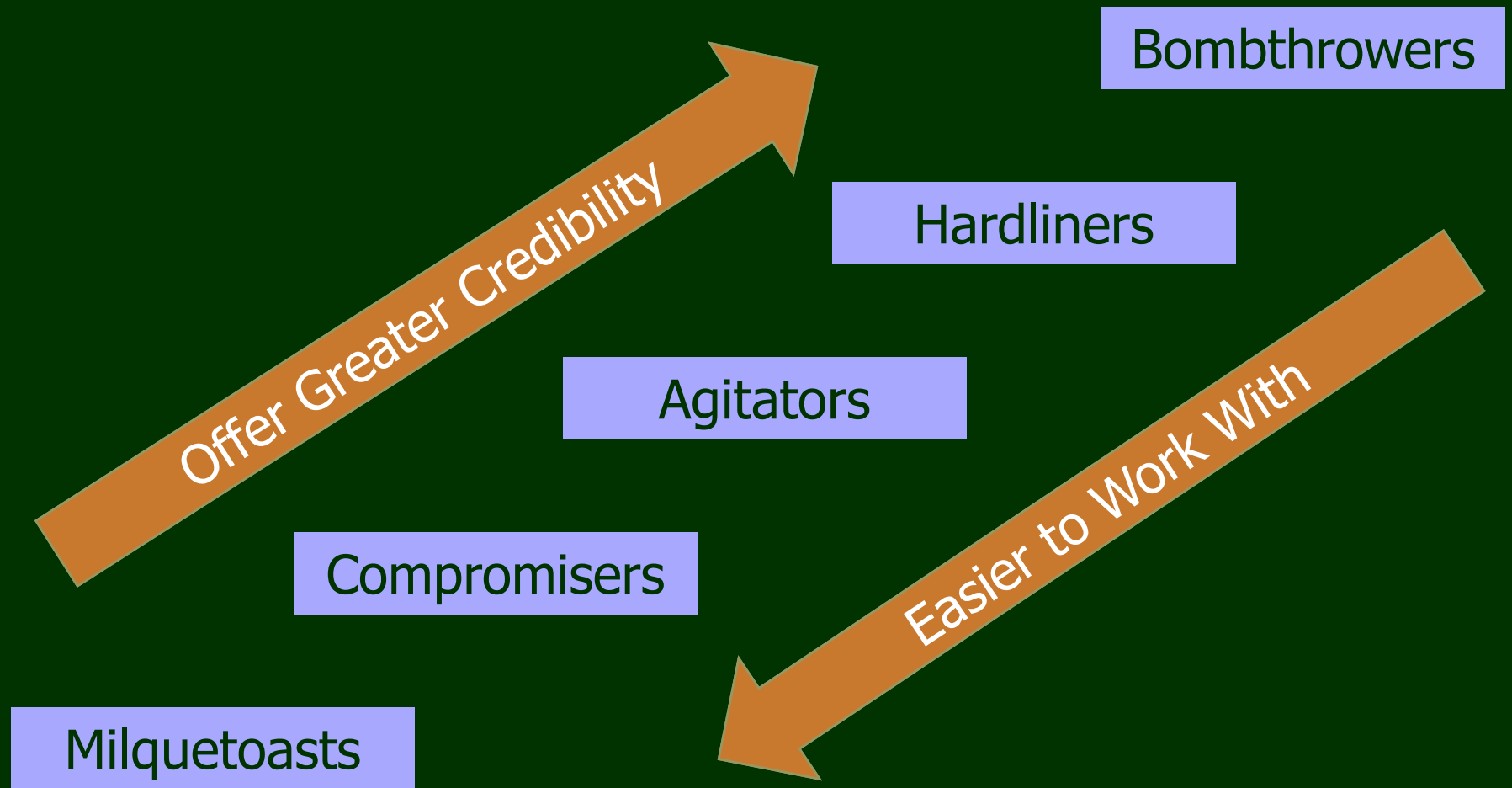
Managing The Human Side

- The traditional education of supply chain managers stresses technical solutions to technical problems
- Yet, it is imperative for them to be sensitive to environmental and social issues
- This is a human resource challenge
 - Find university programs that stress both hemispheres of the brain
 - Stress interdisciplinary teams
 - Try to provide goal metrics that won't intimidate managers

Partnering with NGOs

- NGOs offer tremendous potential benefits
 - A source of deep expertise
 - A conduit to emerging ideas
 - A stamp of credibility
- Partners must be chosen wisely

A Continuum of NGOs



Partnering with NGOs

- NGOs offer tremendous potential benefits
 - A source of deep expertise
 - A conduit to emerging ideas
 - A stamp of credibility
- Partners must be chosen wisely
 - Judge the potential for success
 - Choose an organization with relevant experience
 - Appreciate the difficulty of creating common goals
- Third party certifications trump industry-led standards

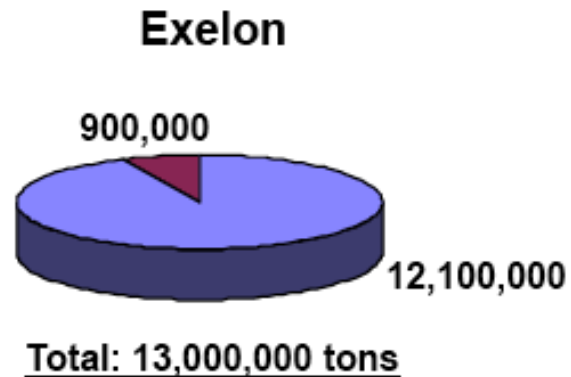
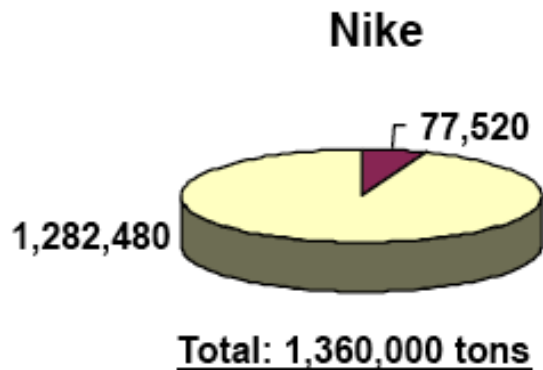
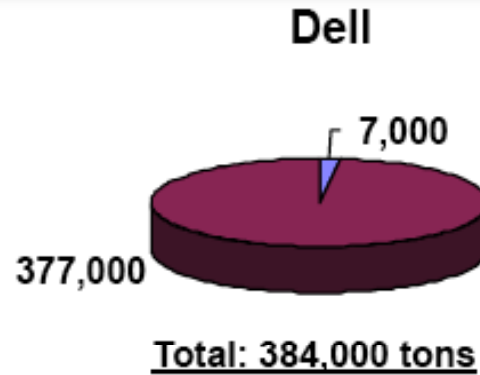
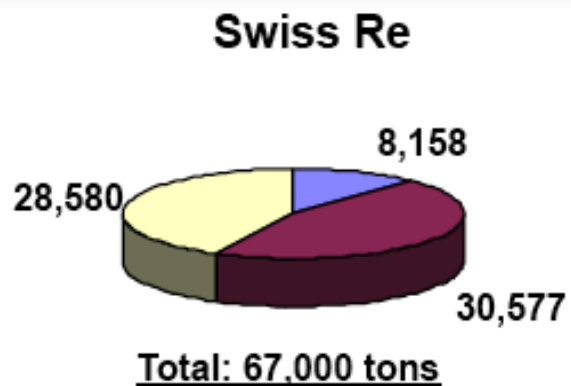
Overall Carbon Footprinting: Break the Problem Up

- One way to proceed: Carbon Disclosure Project schema for accounting
 - Scope 1: Direct impacts of company
 - Scope 2: Energy providers
 - Scope 3: Supply chain partners
- *Question: How can you have any hope of a credible Scope 3 accounting without a strong relationship with your suppliers?*

Evaluating a Carbon Footprint

- Use a generally accepted standard
 - Example: GHG Protocol
- Create measures that are clear and that will permit longitudinal data collection
 - Favor those that can be tied to performance and compensation
- Engage suppliers, who might have dealt with similar challenges

The Nature of the Supply Chain and Carbon Footprints



Scope 1

Scope 2

Scope 3

Source: Carbon Disclosure Project, Pew Center

Recreational Equipment Incorporated (REI) Current Carbon Footprint Analysis

Question: What are the the top 3 sources of carbon emissions at REI?

- Corporate travel
- Direct fulfillment
- Electricity
- Employee commuting
- Natural gas
- Product transportation
- REI Adventures
- Other

Source: Recreational Equipment, Inc.

Learning to Trade

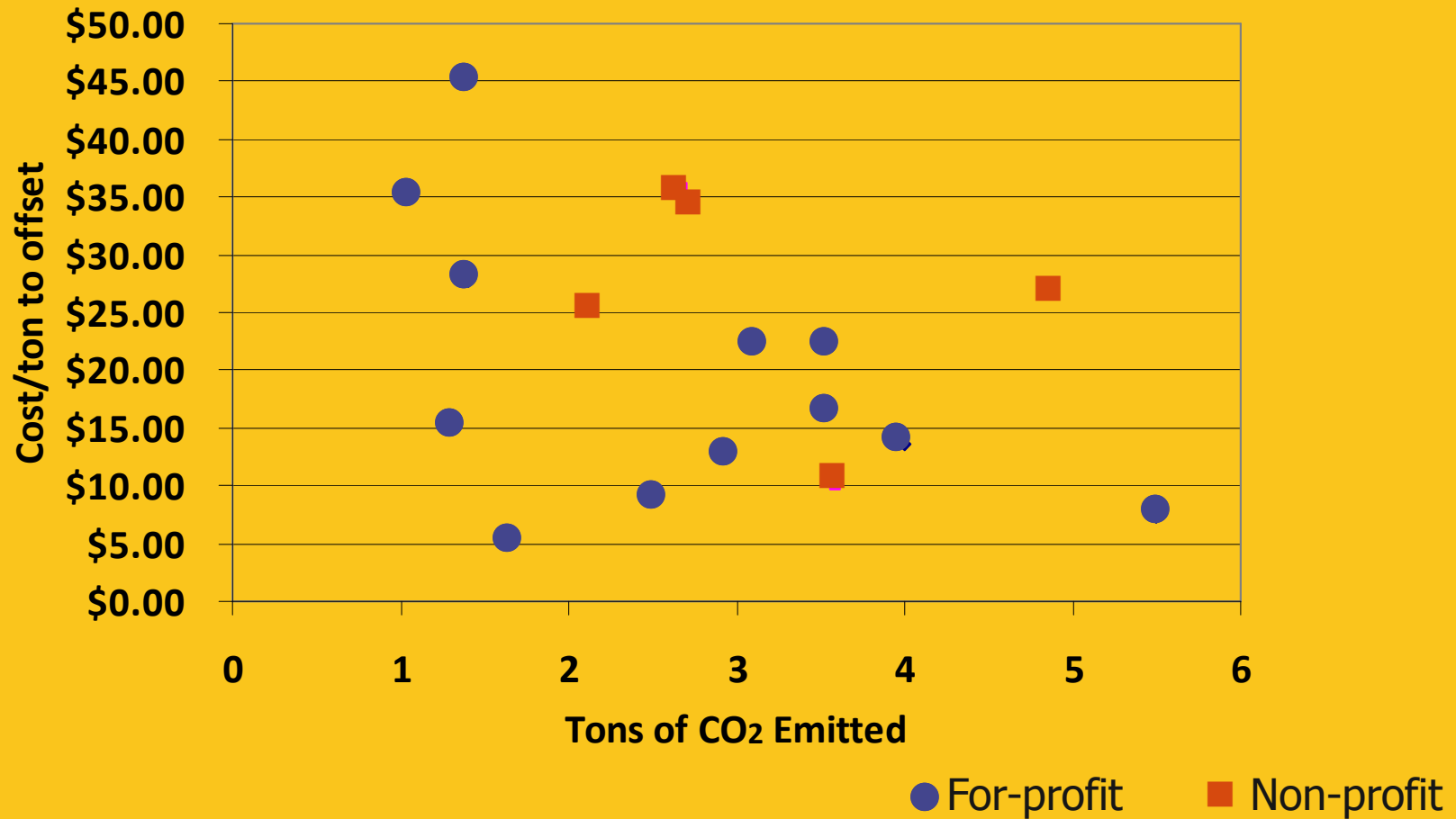
- Find a way to get involved
 - Review other markets (EPA bubbles, SO₂)
 - Pay attention to the European market
 - Purchase offsets
 - Create an internal market for carbon
 - Monitor functioning markets
- Position yourself for future policy scenarios
 - What if (gasp!) a carbon tax replaces cap & trade?

Learning to Trade: Heads Up!

- The voluntary market: caveat emptor

Voluntary Offset Market

15 Providers: 8400 Mile Mumbai-Tokyo Round-Trip



Learning to Trade: Caveats

- The voluntary market: caveat emptor
- Ensure “additionality”
- Avoid HFC-23 Projects
 - HFC-23 has 11,700 times the impact of CO₂
 - Building projects to shut them down
- Don't assume that your own reductions in some areas create saleable instruments

A Few “Big Picture” Thoughts

- Think strategically, but also longitudinally
- Firms that possess high technical and responsibility expertise will be advantaged
- There is a clear need to not only monitor, but participate in policy debates
 - “If you’re not at the table, you’re on the menu”