

# THE GREEN WINE SUMMIT

## GREEN BUSINESS - NEW RULES & REGS, HEADS UP!

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DECEMBER 1 & 2, 2009

HYATT VINEYARD CREEK  
SANTA ROSA, CALIFORNIA

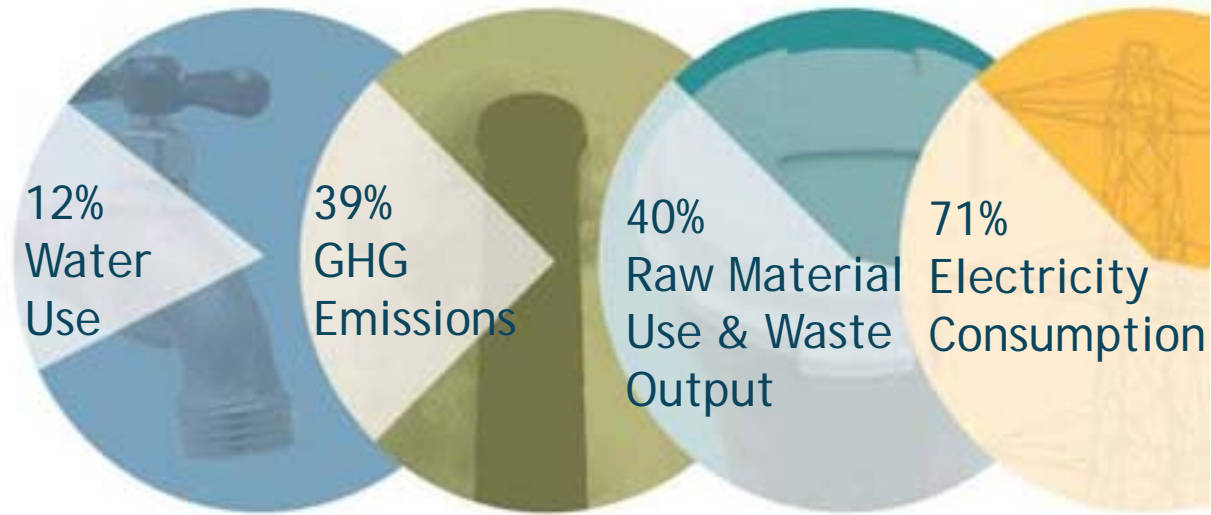


FARELLA BRAUN + MARTEL LLP



# Roadmap

- Goals
  - Primer for tomorrow's conference
  - Introduction of terms, topics, and issues
- Topics
  - Green Buildings
  - Sustainable Water Supply
  - Navigating the Carbon World
  - Greenwashing
  - Green Accounting
  - Green Chemistry
  - Retailers as Regulators



Compiled by USEPA Green Building Working Group 2004

# GREEN BUILDINGS

# Leadership in Energy and Environmental Design (LEED®)



- Developed by the United States Green Building Council (USGBC), mainly by architects
- Benefits of adopting LEED system as the standard?
  1. A third-party rating system demonstrating specific green building attributes
  2. Based on consensus standards (EPAct 1992; ASHRAE; ASTM, etc)
  3. A means to measure performance
  4. A quality control process for sustainable design projects

# LEED® 2009 Rating System



## Comparison of Maximum Points Awarded LEED-NC V2.2 & V3

Credit Category	LEED-NC v2.2 <sup>2</sup>		LEED-NC v3 (released April 2009)	
	Points	Percentage	Points	Percentage
Sustainable Sites	14	22%	26	26%
Water Efficiency	5	8%	10	10%
Energy & Atmosphere	17	27%	35	35%
Materials & Resources	13	20%	14	14%
Indoor Environmental Quality	15	23%	15	15%
<b>Total Points</b>	<b>64</b>		<b>100</b>	

# LEED® 2009 Certification Levels

<b>LEED-NC v3 (released April 2009)</b>	
Certified	40-49 points
Silver	50-59 points
Gold	60-79 points
Platinum	80-100 points

Projects can earn “bonus points”

- up to 4 “bonus points” for addressing important regional environmental issues  
[www.usgbc.org/leedv3](http://www.usgbc.org/leedv3)
- Up to 6 “bonus points” for innovative building features or strategies not fully addressed in LEED Categories.

# CA Green Building Codes

- CA green building code
  - adopted by Building Standards Commission in July 2008
  - Brings the code closer to LEED standards
- Mandatory compliance takes effect in 2011
  - Until then, the code is voluntary unless otherwise adopted by local jurisdictions.
- About 75 CA cities and counties have more stringent green building standards

# LEED® Locally

Some of the CA cities that have enacted Green Building Ordinances...

Albany	Los Angeles	San Jose
Brisbane	Marin (Co.)	San Mateo (Co.)
Calabasas	Mill Valley	San Rafael
Cotati	Morgan Hill	Santa Barbara
Culver City	Napa	Santa Cruz
Davis	Novato	Santa Monica
Hayward	Palm Desert	Santa Rosa
Healdsburg	Palo Alto	Sebastopol
Livermore	Pasadena	Sonoma
Long Beach	Pleasanton	Tiburon
Los Altos	Rohnert Park	Windsor
Los Altos Hills	San Francisco	West Hollywood

# WATER SUPPLY

# Water Supply

- Groundwater
  - SWRCB does not issue permits
  - Check on local restrictions
  - SB 6 (2009 special session) GW monitoring requirements
- Surface waters
  - Riparian rights
  - Appropriative rights
    - SWRCB permit required (post-1914 appropriation)
- Contract water
  - State Water Project/Central Valley Project
  - 29 water contractors
- Delta Issues: What's in the future?
  - More water rights enforcement

# Water Supply

- As water tightens, wineries and vineyards should...
  1. Develop supplemental water sources
  2. Secure water rights and as many layers as possible
  3. Expect more studies, scrutiny, and regulations
  4. Promote sustainable water management practices

*Environmental* - more wine per gal of water

*Economic* - reduce disposal, treatment, operation costs

*Equity/Quality* - improved public image



# 5-Step Approach

## *Conventional Winery Operations*



1. Planning and Organization



2. Assessment



3. Data Evaluation & Option ID



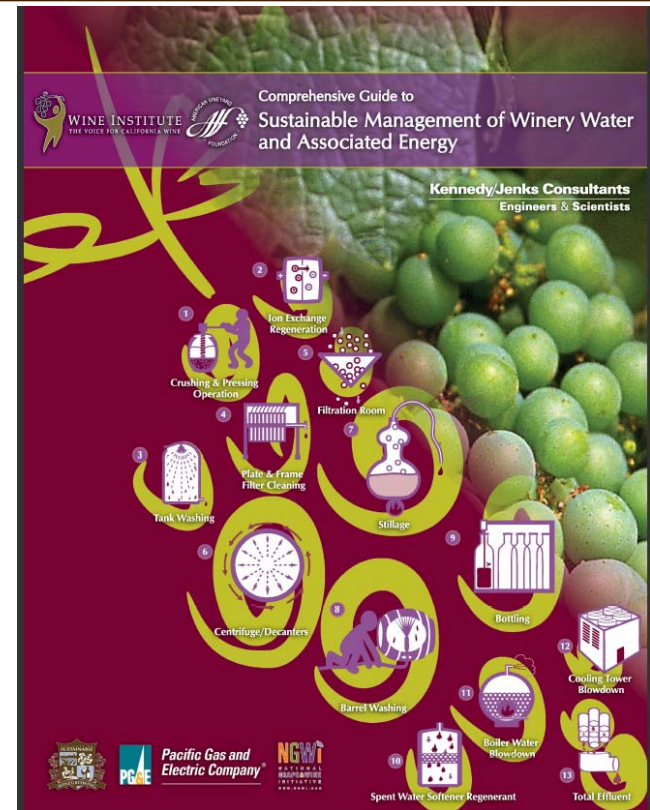
4. Feasibility Analysis



5. Implementation

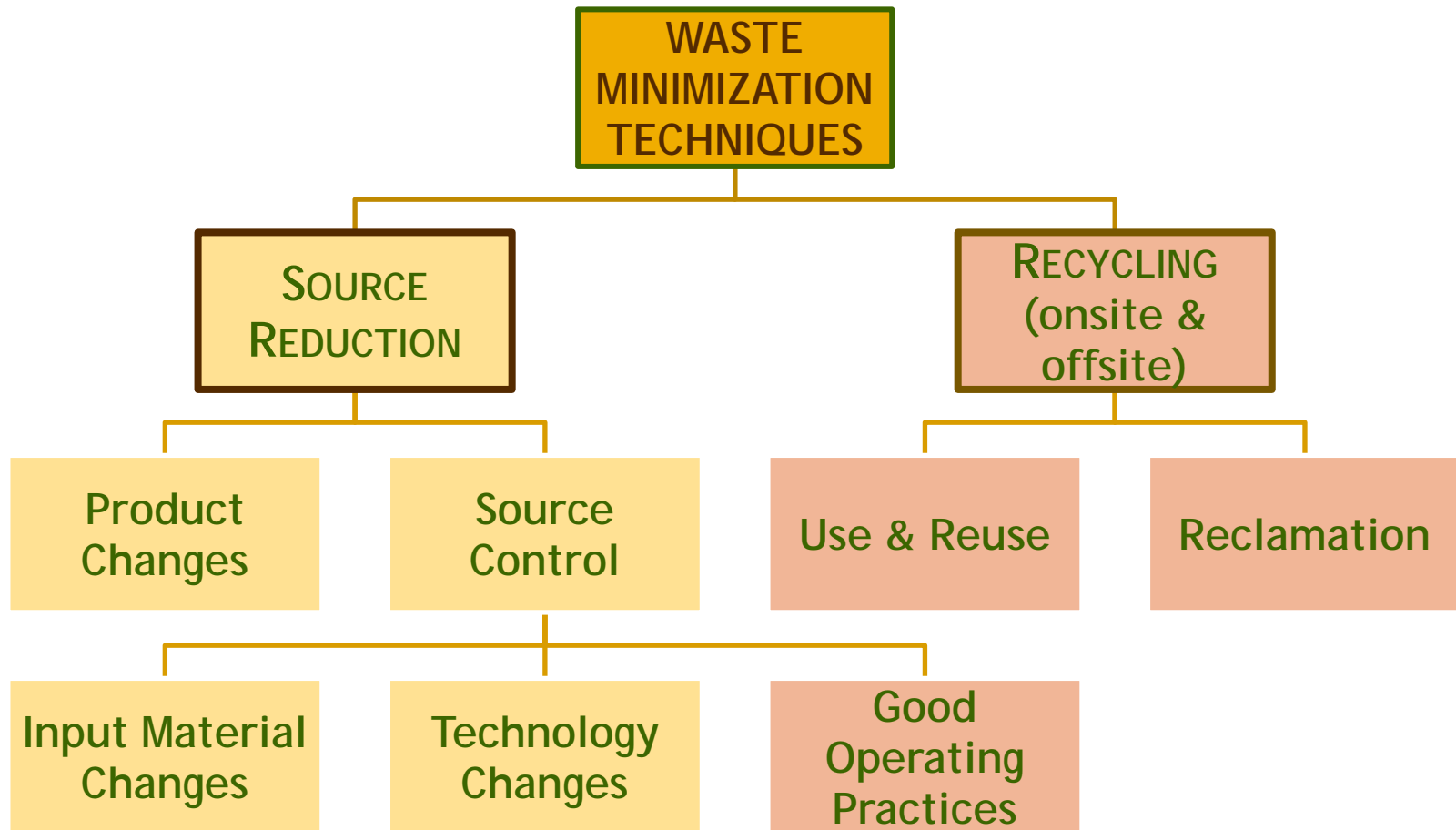


## *SUSTAINABLE WINERY OPERATIONS*



<http://www.wineinstitute.org/winerywaterguide>

# Waste Minimizing Techniques



# Waste Minimization Techniques

## Source Reduction

- **via Source Control**
  - Conservation
  - Good Operating Practices
  - Procedural measures
  - Loss prevention
  - Management practices
  - Process stream segregation
  - Material handling improvements
  - Production scheduling
- **via Source Control (cont')**
  - Technology changes
    - Process changes
    - Equipment, piping or layout changes
    - Additional automation
- **via Product Changes**
  - Substitute a different product
  - Substitute a similar product with different formulation

# Waste Minimization

## Reuse Applications

- Reuse for vineyard irrigation
  - process water is generated at harvest and immediately before rainy season
  - Storage is needed to hold treated process water for frost protection and irrigation
  - Discharge to land is regulated and under increasing scrutiny
- Reuse within the winery
  - Return used water or product to same process
  - Substitute as a raw material for another process
  - May require an interim treatment step
  - Cycle as many times as quality requirements allow

# Reuse for Irrigation

~ What in Process Water is Regulated? ~

## Regulated Constituents in Winery Discharges to Land

- BOD
- TSS
- pH
- Settable Solids
- TDS



## Regulatory Intent

- Apply at agronomic rates
- No runoff
- Anti-Degradation Policy
- Protective of water quality



## BPTC needed to protect water quality

- Waste minimization
- Segregation and Treatment

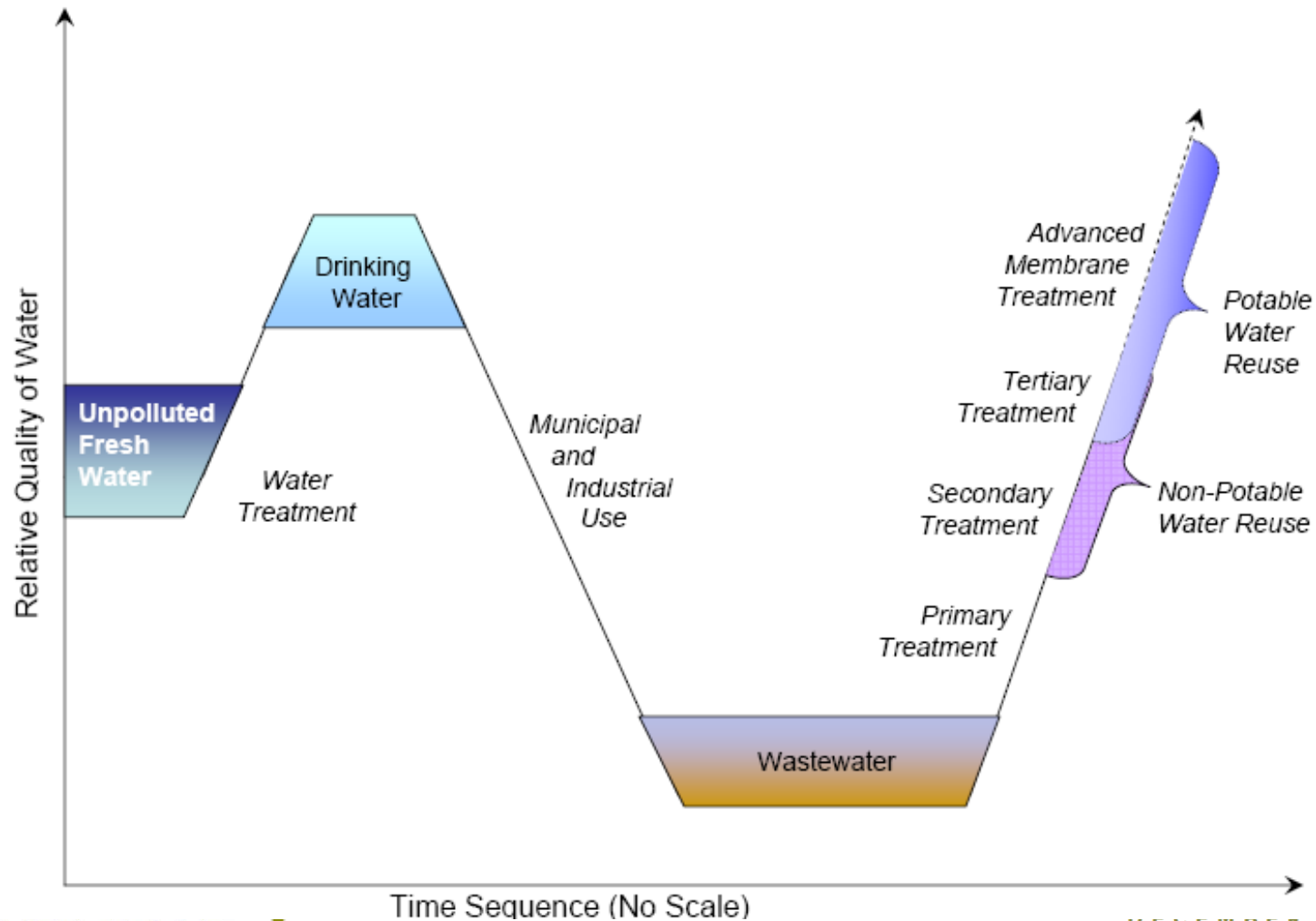
# Waste Minimization / Develop New Source Recycled Water

## What is Recycled Water?

- Wastewater from homes and businesses that goes through primary, secondary and tertiary treatment processes:

Stage	Purpose
primary treatment	settles out solid matter
secondary treatment	microbes digest organic matter
tertiary treatment	filtration of minute particles
disinfection process	destroys bacteria and germs

# Relative Water Quality of Municipal Water Supplies



# Personal Care Products

- Groups and compounds considered:
  - Pharmaceutically Active Compounds (Ethinylestradiol & Trimethoprim)
  - Personal Care Products (DEET & Acetaminophen)
  - Alkylphenol Polyethoxycarboxylates
  - Endocrine Disrupting Compounds
- Adverse effects NOT observed at concentrations detected in highly treated water and wastewater
  - Parts per billion and trillion:
    - 0.000000001 and 0.0000000000001
    - “one grain of sand in a swimming pool” (USEPA)
- Thousands of times below doses for “effects”

# Personal Care Products

- Uncertainties
  - Limited toxicological data
  - Subchronic, cumulative effects
  - Low dose response
  - Project-specific exposure data
  - Project-specific water quality data
- Next steps for method improvement
  - Use occurrence data in exposure assessment
  - Combine microbial and chemical risks
  - Address indirect and ecological exposures
  - Develop predicted no effect concentrations for unregulated chemicals

Carbon

# IT'S NOT JUST ABOUT AB32

# Greenhouse gas emissions and climate change: A Carbon Market?

- California/AB 32 (2006)
  - Achieve 1990 GHG emission levels by 2020
    - Governor's executive order seeks further cuts by 2050
  - California Air Resources Board scoping plan for achieving 2020 goal (adopted)
  - Early actions (low-hanging fruit, such as low carbon fuel standard)
    - To be adopted by Jan. 1 2010
  - GHG reporting regulation (adopted)
  - Adopt regulations "to achieve maximum technologically feasible and cost effective reductions in GHGs, including market mechanisms and alternative compliance mechanisms"
    - To be adopted by Jan. 1 2011
    - Early draft of cap & trade regulation out for comment Nov. 24, 2009
  - [www.arb.gov](http://www.arb.gov)

# Greenhouse gas emissions and climate change: A Carbon Market?

- California
  - CEQA regulations
    - California Natural Resources Agency CEQA Guidelines proposed amendments regarding GHG emissions have been out for comment
      - Comment period is now closed, final rules not published
  - Don't forget the local governments
    - Climate Action Plans
    - Primarily land use issues

# Greenhouse gas emissions and climate change: A Carbon Market?

- Federal
  - EPA GHG registry
    - Final rule signed September 22, 2009
    - Largest GHG emitters
      - 25,000 tons of GHG emissions per year
  - H.R. 2454, the American Clean Energy and Security (ACES) Act
    - Passed by House in June 2009
  - Senate bill
    - Out of Committee without Republican support
  - Preemption issues???
- International
  - Kyoto Treaty
  - UN Climate Change Conference
    - Copenhagen Dec. 7 2009

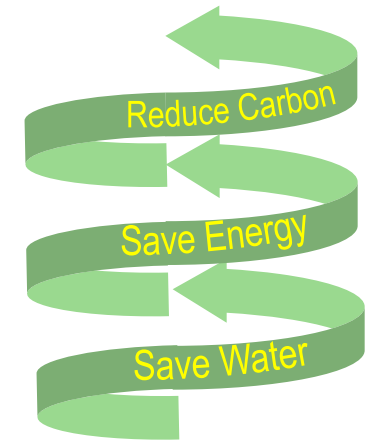
# Quantifying the impact of future regulations

If you are NOT going to be regulated: < 25,000 MTCO<sub>2</sub>e

1. Not immune from costs passed on to you by others (glass?)
2. Retail channels expectations
3. May act anyway due to a Corporate Sustainability policy
4. What is your competition doing (or not doing)?
5. Revenue opportunity for offsets (Cap & Trade or voluntary markets)
  - real, additional, based on a realistic baseline, quantified and monitored, independently verified, unambiguously owned, address permanence, do no harm
6. Cost & staff time for GHG inventory & Climate Action Plan
  - GHG inventory takes more time than you think
  - CAP identifies emissions reduction actions - some have costs & some create savings & some make good business sense

# Climate Action Plan

- Climate Action Plan Elements
  - GHG inventory & reporting
  - Establish GHG reduction goal
    - neutrality, regulatory, compliance, other
  - Identify & evaluate carbon mitigation options via
    - Energy Efficiency Audit
    - Process Optimization Audit
    - Water Audit
  - Select best options taking into account costs, benefits, & externalities
  - Implementation
    - monitoring, updating GHG inventory, & renewing the mitigation options.



# Carbon Mitigation via Energy Audit

## Technologies for Energy Efficiency:

### Lighting :

- replace HID w/T5 or T8 fluorescent high bay fixture
- T5 or T8 fluorescent fixtures w/electronic ballasts in office, lab
- Install compact fluorescents in bathrooms
- Install LED exit signs

### Building and Tanks

- Insulate wine tanks
- Install strip curtains on conditioned buildings
- Solar screens or building insulation to reduce heat gains on tank farms
- Insulate refrigerant lines
- Night air cooling.

### Refrigeration:

- Replace air cooled w/evaporative condenser
- Premium efficiency motors
- Floating head pressure control
- Heat recovery
- Variable speed drives on pumps
- Insulate glycol lines

### Ponds

- Premium efficiency motors
- 2 speed motors
- DO sensors

### Boilers

- High efficiency boilers
- Insulate hot water and steam lines
- Heat recovery
- Full modulating burners

# Carbon Mitigation via Process Optimization Audit

## Process Modification for Energy Efficiency:

### Lighting :

- Lighting controls - time clocks, bypass/delay timer, photocell, motion detectors
- Disconnect unused ballast
- Remove burned out lamps to avoid ballast damage

### Building and Tanks

- Ensure tank volume is appropriate

### Ponds

- Time clocks on aerators
- Pre-screening of flow into pond
- Off-peak

### Boilers

- Preventive maintenance
- Regular combustion analysis (air/fuel mixture)
- Water test/treatment at recommended intervals
- Time clocks
- Automatic pump shutoff on low/no demand

# Energy Master Planning

- Process to select optimal management programs and GHG emission reduction projects among dozen of choices
  1. Energy Efficiency Audit
  2. Process Optimization Audit
  3. Renewable Energy Options
  4. Evaluate options
  5. Screen & rank options
  6. Action plan
- Benefits:
  - Optimizes entire energy/GHG program
  - Obtains the greatest benefit per dollar invested.
  - Brings existing and potential future energy programs under one umbrella and into one process.

# Greenwashing

# “Greenwashing”

- Federal Trade Commission
  - Guide for the Use of Environmental Marketing Claims
  - [www.ftc.gov/bcp/grnrule/guides980427.htm](http://www.ftc.gov/bcp/grnrule/guides980427.htm)
  - Not a regulation
  - Implements Section 5 of FTC Act by clarifying what are unlawful deceptive acts and practices affecting commerce
  - Need to have reasonable basis for making claims re:
    - General Environmental benefit claims
    - Specific listed claims areas, including biodegradability, recyclability, recycled content, source reduction, etc.
    - Recent administrative enforcement actions by FTC over unsubstantiated biodegradability claims
      - <http://www.ftc.gov/opa/2009/06/kmart.shtm>

# “Greenwashing”

- Non-Governmental Organizations
  - [www.sinsofgreenwashing.org](http://www.sinsofgreenwashing.org)
- Media attention
  - <http://www.time.com/time/magazine/article/0,9171,1840562,00.html>

# Green Accounting

# Green Accounting for Environmental Liabilities

- SEC regulations
  - Publicly-traded companies
  - Must disclose material information to investors
  - Material if there is substantial likelihood that reasonable investor would consider it important to investment decision
  - Annual environmental/corp. social responsibility reports
- Financial Accounting Standards Board
  - Generally-Accepted Accounting Principles
  - What must be reported, disclosed, reserved
  - Environmental liabilities include cleanup (superfund) obligations, asset retirement obligations
  - Climate change liabilities: regulatory compliance costs, impacts of climate change on business

# Green Accounting for Environmental Liabilities

- Non-governmental actors
  - CERES
    - Coalition of investors, companies, public interest groups
    - Petition to SEC proposed framework for climate change disclosures
  - Investors
    - Individual shareholders
    - Institutional investors (CalPERS)
  - Dow Jones Sustainable Index

# Green Chemistry

# Green Chemistry

- Iterative development of chemical safety regimes
  - US (TSCA, RCRA, FIFRA, etc.)
  - EU (REACH, RoHS)
- California's AB 1894
  - Established framework for identifying chemicals of concern and safer alternatives: "benign by design"
  - Looks at production and disposal as well as the consumer product itself (life cycle analysis)
  - DTSC's "Straw Proposal" for safer alternative regulations issued Oct. 1, 2009
    - For preliminary review by Green Ribbon Science Panel review
    - Very complex, burdensome, likely to be extensively revised

# Retailers as Regulators

# Retailers as regulators

- WalMart Sustainability Product Survey
  - 15 questions for Walmart suppliers re: environmental impacts
    - Energy and climate (including GHG emissions)
    - Reduction of waste
    - Natural resource use
    - People and communities (reponsible and ethical production)
  - Eventually to be used as rating system to inform customers
- TESCO
  - Carbon labeling pilot program

# Retailers as regulators

Not governmental regulator bound by formal rulemaking process

- Advantages
  - No formal rulemaking process
    - Fast
    - Effective (if you want to do business with retailer, need to follow their rules)
  - Global reach
- Disadvantages
  - No formal rulemaking process
    - Limits stakeholder input
    - Difficult to challenge
    - Less guidance regarding responses sought

# THANK YOU

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