The Evolution of GrEEEn

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Outline of the Presentation

• Challenges we face
• What is GrEEEn?
• The Six GrEEEn (Principles)
• Evolution of Green in Tiers
• Challenges to GrEEEning
What are the challenges we face today?
Wasteful Use of Resources

- Phosphoric acid generates 500% waste gypsum
- One tonne of rock to produce one ounce of gold
- Five tonnes of wild fish to produce one tonne of farm fish
- Energy resources - oil extraction is 35% efficient, electricity production also 35%,
- Irrigation uses 80% of abstracted freshwater in the world, but loses 65% of it before it reaches the farm.
POOR FLOW OF RESOURCES INTO PRODUCTS

- Only 7% of resources end up in the product
- 80% of products are used only once
- Many products consume more resources during the use phase than during manufacture
- Most product themselves become waste eventually
Ecological Footprint

U.S./12.2 Acres

Netherlands/8 Acres

India/1 Acre

Source: Donella Meadows
Commercial buildings create almost 20% of Greenhouse gases in the US.
Global Warming
Pressures for change

- Competition, Quality, Costs
- Resource constraint (water/energy)
- Public expectations - Social justice (ILO conventions)
- Transparency and Accountability
- Risks of reputation
How did it all begin?
Before GrEEn ...  
Compliance as the Focus

Policies  
Regulations  
Standards  
Protection of Human Health and Ecosystems  
Treat and Dispose  
*Do no Harm*
The Resource Focus - Responding to Sustainability

Resource Security
Depletion, Degradation, Uncertainty

Reduce Inputs, Generate less waste
Consume less, Increase Outputs

Eco-Efficiency, Cleaner Production/Green Productivity, Design for Sustainability
MAJOR PARADIGM SHIFT
Key expansions

Widening of Boundaries – (Going Beyond the Factory Gates)
The Triple Bottom Line (Economic, Environmental and Social)
Life Cycle Thinking (Take backs, Traceability)
Addressing Global Issues (Climate Change, Ozone Depletion, Biodiversity)
Common Code of Conduct- (Integrated Universal Management System that is commonly understood)
Benefits of GrEEn

- Be compliant
- Reduce risks
- Reduce costs
- Maximize performance
- Establish Brand
- Better Stakeholder Management (Neighborhood, Staff, Supply Chains)
- More effectiveness in Discharging CSR
- Framework for Transparency

Improves Outcomes

Sustainability in an Organization

Reduces Adverse Env and Social Impacts/Risks

Optimizes operations
Shades of GrEEn
The Green Six
Basic

• Be Lean, Minimal
  – Avoid, Eliminate, Reduce
  – Follow close to best practices

• Be Efficient (I/O)
  – Technology, Controls, 3Rs

• Do no harm
  – Don’t use hazardous substances, substitute
  – Factor safety (workers, neighborhood, supply-chain, consumers/occupiers)
Expanded

• Make choices based on life cycle thinking
  – Design, Materials, Technology, Packaging ..

• Use Triple Bottom Line for Taking Decisions
  – Economic, Environment, Social, Ethical

• Reflect Global thinking into Local actions
  – Climate change, Ozone Depletion, Biodiversity
The Concept of Sustainability

Input
- Water
- Energy
- Waste

Processing
- Materials
- Processing

Output
- Extended Producer Responsibility
- Life Cycle Thinking
- Market Expectations
- Regulations
- Quality
- Health, Safety, Environment, Social

Management System
GrEEning in Tiers
Four Tiers of GrEEning

Tier 1
- Compliance to Env Laws and Social Standards
- Establishing Environmental and Social Governance (ESG)

Meeting laws of the land, Market / Investor requirements

Tier 2
- Minimizing Footprints (Water, Energy, Carbon)

Going Beyond Compliance

Tier 3
- Greening of Supply Chains/ Green Purchasing
- Stakeholder Engagements
- Social Inclusion

Extending Boundaries

Tier 4
- Embedded Sustainability
- Sustainability as Business Driver

Mainstreaming
Tier 1: Compliance

Minimum Eligibility Criteria for Sustainability

- Compliance with procedures
- Generate and Maintain Associated Documentation
- Monitoring and Reporting
- Compliance – Meeting Laws of the Land and Requirements of the Market / Investors
- Deploying qualified staff
- Investing on mitigation measures
Beyond Compliance – Practicing ‘Smart’ Sustainability

- Conserve resources
- Reduce Wastes/Emissions
- Reduce risks and vulnerability
- Join International Initiatives

- Water & Energy Conservation
- Responding to Climate Change
- Green Buildings
- ISO 14000 & 18000 Certification
- Practicing 3Rs
- Carbon Disclosure

Tier 2: Beyond Compliance
Tier 3: Extending Boundaries

- Green Purchasing
- Greening of Supply Chains
- Supporting Communities in Project Catchments
- Practicing CSR

- CSR
  - Green Jobs and Social Inclusion
- Extended Producer Responsibility
- Green Purchasing
- Contractor Skill Training and EHS Management
- Assistance to suppliers for EHS performance
Tier 4: Embedded Sustainability

- Mainstreaming Sustainability
- Sustainability Awareness Programme
- Sustainability Reporting
- Sustainability as the Business driver

- Green IT
- Green Schools
- Green Offices

- Conservation Finance
- Climate Insurance
- Impact Funds

- Eco-cities
- Smart Cities
- Eco-Industrial Parks

- Renewable Energy
- Distributed Generation of Power

- Sustainable Mobility Solutions
GrEENing @Corporate? 201X?
Economy

Environment
CHALLENGES
Challenges To GrEEning Businesses

- Considered as marketing gimmick
- Greenwash
- No tangible outcome
- Hard to define
- Lack of metrics for footprint calculation

Challenges To GrEEning Regulators

- Considered as ‘cost’ without Social Return on Investment
- Top management not involved
- Not a business ‘strategy’
- Consumers not interested
- No life cycle thinking
- Supply Chains not considered
- No incentives to spur innovation
- Lack of proper communication
- Lack of policy framework
- Lack of qualified personnel
- Lack of structured framework to stimulate markets

Social Return on Investment

Top management not involved
Green buildings
Smart cities

Social inclusion
Green jobs
Low Carbon Living

Green economy
Conservation Finance
Business practices with low environmental and social impacts

SUSTAINABILITY

INNOVATION
Green buildings
Smart cities

Social inclusion
Green jobs
Low Carbon Living

Ethics
Equity
Transparency

Green economy
Conservation Finance
Business practices with low environmental and social impacts

SHARED RESPONSIBILITY
SUSTAINABILITY

Values
People
Profit
Planet
Do you want to be that odd man green?
Let us walk together ...
Be part of the Process
Thank you for your attention