1. SUSTAINABILITY AND GLOBAL CONDITIONS

- 1.1. Sustainable Consumption and Production
  - 1.1.1. Sustainable Consumption and Production
- 1.2. Climate Change and Causes of Global Warming
- 1.3. Natural Resource Protection
- 1.4. Ecosystems and Biodiversity

2. MATERIAL AND SOLID WASTE MANAGEMENT

- 2.1 Solid Waste Streams
- 2.2 Solid Waste Management
- 2.3 Refuse, Reduce, Reuse, Recycle
- 2.4 Product Lifecycle Analysis
  - 2.4.1 Cradle-to-cradle
  - 2.4.2 Waste creation/product discards
  - 2.4.3 Green purchasing/procurement
- 2.5 Design for Environment
  - 2.5.1 Alternative materials considerations (cost, design, function, performance)
  - 2.5.2 Source reduction
  - 2.5.3 Dematerialization
  - 2.5.4 By-product reduction
  - 2.5.5 Restructuring production/distribution systems
  - 2.5.6 Identifying/implementing synergies
- 2.6 Zero Waste/Zero Landfill
  - 2.6.1 Waste exchange
- 2.7 Measuring Material Use and Solid Waste
  - 2.7.1 Data sources for material use/solid waste
  - 2.7.2 Common metrics/measures
  - 2.7.3 Analysis and trending
  - 2.7.4 Expressing material and solid waste in monetary/cost terms

3. ENERGY MANAGEMENT

- 3.1 Non-Renewable Energy Sources
- 3.2 Renewable Energy Sources
- 3.3 Major Energy Systems
  - 3.3.1 Building envelope
  - 3.3.2 HVAC
  - 3.3.3 Electrical supply
  - 3.3.4 Lighting
  - 3.3.5 Boiler and steam
  - 3.3.6 Hot water
  - 3.3.7 Compressed air
  - 3.3.8 Motor driven systems
  - 3.3.9 Process heating
  - 3.3.10 Special purpose process equipment
- 3.4 Energy Audits
- 3.5 Measuring Energy Use
  - 3.5.1 Data sources for energy utilization (utility bills, meters, etc.)
  - 3.5.2 Common energy metrics/measures
  - 3.5.3 Analysis and trending
  - 3.5.4 Expressing energy and energy waste in monetary/cost terms

4. CHEMICAL WASTE MANAGEMENT/GREEN CHEMISTRY

- 4.1 The Principles of Green Chemistry
  - 4.1.1 “Hit list” chemicals
  - 4.1.2 Electronic waste (e-waste)
- 4.2 Auxiliary Substances
  - 4.2.1 Substitutions
  - 4.2.2 Enclosure/recovery
- 4.4 Process Reengineering
  - 4.4.1 Switching from batch reactions to continuous processing
  - 4.4.2 Alternative reactions/catalysts
- 4.5 Environmental Hazard Prevention/Reduction
- 4.6 Regulatory Standards (e.g. RoHs, WEEE, REACH, ISO, OSHA, EPA, etc.)
- 4.7 Measuring Chemical Use/Waste
  - 4.7.1 Data sources for chemical use/waste
  - 4.7.2 Common chemical metrics/measures
  - 4.7.3 Analysis and trending
  - 4.7.4 Expressing chemical and chemical waste in monetary/cost terms

5. CLIMATE/ AIR EMISSIONS MANAGEMENT

- 5.1 Air Contaminants
  - 5.1.1 Global warming
  - 5.1.2 Ozone depletion
  - 5.1.3 Air quality index
- 5.2 Industrial Hygiene
  - 5.2.1 Environmental factors/stresses
  - 5.2.2 Measurement of airborne chemical exposures (calibration, collection, analysis, evaluation)
  - 5.2.3 Regulatory standards, e.g., OSHA, acceptable levels
- 5.3 Pollution Prevention, Reduction, and Treatment
- 5.4 Noise Pollution
  - 5.4.1 Accepted units for noise
  - 5.4.2 Regulatory standards, e.g., OSHA, EPA, etc.
  - 5.4.3 Noise measurement devices and processes
  - 5.4.4 The effects of noise
  - 5.4.5 Controlling noise
- 5.5 Air Sampling
  - 5.5.1 Purpose and components of air sampling
  - 5.5.2 Types of air samples (e.g. personal, breathing zone, general air/area, time weighted average, etc.)
  - 5.5.3 Health risk assessment
  - 5.5.4 Determine need for/effectiveness of engineering controls
  - 5.5.5 Incident/complaint investigation
- 5.6 Measuring Emissions
  - 5.6.1 Data sources for air/noise emissions
  - 5.6.2 Emissions factors/metrics
  - 5.6.3 Analysis and trending
  - 5.6.4 Expressing air/noise management in monetary/cost terms

6. SUPPLY WATER / WASTEWATER MANAGEMENT

- 6.1 Water Cycle
  - 6.1.1 Environmental changes impacting water cycle
- 6.2 Supply Water Resources and Conservation
  - 6.2.1 Sustainable drainage
  - 6.2.2 Water efficiency
  - 6.2.3 Water quality
  - 6.2.4 Legislation and regulatory standards (e.g., EPA)
- 6.3 Water Contaminants
- 6.4 Water Pollution Identification, Prevention, Monitoring, Reduction and Treatment
- 6.5 Measuring Water Use/Waste
  - 6.5.1 Data sources for water use/waste
  - 6.5.2 Common metrics/measures
  - 6.5.3 Analysis and trending
  - 6.5.4 Expressing water use and wastewater in monetary/cost terms

7. ENVIRONMENTAL BUSINESS MANAGEMENT

- 7.1 Green Business Philosophy
  - 7.1.1 Green products and eco-design
  - 7.1.2 Green packaging
  - 7.1.3 Clean production
  - 7.1.4 Green supply chain and transport
- 7.2 Standards, Regulations, Permitting
  - 7.2.1 Environmental management standards (EMS), e.g., ISO 14001
  - 7.2.2 Environmental Protection Agency
  - 7.2.3 Industry specific standards
- 7.3 Business Case for Sustainability
  - 7.3.1 Financial aspects (e.g., triple bottom line, investment, investment recovery)
  - 7.3.2 Environmental performance measurement
  - 7.3.3 Strategic value