



***A Step-by-Step Approach to
Developing a Sustainability Plan***

***Janet Brown
Practice Greenhealth***



joe-ks.com



PRACTICE Greenhealth



Education & Resources

Tools & Services

Awards & Recognition

1. Education

Join Practice Greenhealth

Practice Greenhealth is the nation's leading membership and networking organization for institutions in the healthcare community that have made a commitment to sustainable, eco-friendly practices. Members include hospitals, healthcare systems, businesses and other stakeholders engaged in the greening of healthcare to improve the health of patients, staff and the environment. [Join Now](#)

The Latest...

AIA Continuing Education Units Now Available

Practice Greenhealth is pleased to announce the availability of Continuing Education Units (CEU) from the American Institute of Architects for the Design and Construction webinar series! Attendees at each 90-minute webinar can earn 1.5 AIA CEUs. [More](#)

Upcoming Webinars

- Jul 25 [Operations Series – Water Use in Facilities: Laundry, Stormwater and Green Roof Case Studies](#)
- Aug 1 [Ten Steps to Getting Started with Practice Greenhealth](#)
- Aug 8 [Design & Construction Series – Greening Specifications for Health Care](#)

www.practicegreenhealth.org

Education & Resources
Clean Energy

About Us
Board of Directors
Our Staff
Contact Us

Tools & Services
Webinars
Education & Consulting Services
Healthcare Clean Energy Exchange

Awards & Recognition
Award Winners
Partner Recognition
Making Medicine Mercury-Free
Partner for Change
Champion for Change
System for Change

Member Community
Membership
Current Members



Healthcare's Environmental Footprint

- Healthcare is 16% GDP → 20% by 2015
- Hospital workforce: 4.6 million^[1]
- 24/7 operations
- \$8.3 billion on energy each year^[2] -
Double energy use per square foot than commercial office buildings
- Water – often largest water users in the community
- Over 2 million tons of waste per year – 28 pounds total waste per licensed bed per day



Three Goals of Healing Environments

- Reduce Stress of Building Occupants
- Improve Safety
- Contribute to Ecological Health



“A better building is one that facilitates physical, mental, and social well-being and productive behavior in its occupants”

<http://www.healthdesign.org>



THE CENTER FOR
HEALTH DESIGN

First, Do No Harm



Patient Health



Worker Health



Community Health

A close-up, warm-toned photograph of a newborn baby's face, showing the eye, nose, and mouth. The baby is looking slightly to the right.

BodyBurden

The Pollution in Newborns

A benchmark investigation of industrial chemicals, pollutants, and pesticides in human umbilical cord blood

Other Toxicity issues

- Mercury
- Ethylene Oxide, Glutaraldehyde
- Disinfectants
- Cleaning Chemicals
- Pesticides
- Herbicides
- Hazardous Pharmaceuticals
- Laboratory Chemicals, solvents
- Bromated fire retardants
- Exhaust from vehicles
- DEHP in medical devices
- Electronics waste
- Materials and finishes
- Safer Building Materials



What story
Do they have
To tell?

Prioritize Worker Respect



Public Health Paradigm

- An ounce of prevention
- The Precautionary Principle
 - implies that there is an ethical imperative to prevent rather than merely treat disease, even in the face of scientific uncertainty. This principle can be understood as: “when an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically”
- Opt for safer substitutes

2. Engaging Leadership



H2E 10 STEP GUIDE TO

Creating the Environmental Imperative in Healthcare

A Guide for Healthcare Executives

The impact of healthcare on the environment is visible. The healthcare sector spends more than \$6.3 billion on energy each year, and hospitals are consistently within the top ten water users in their communities.¹ At the same time, healthcare facilities use an array of toxic chemicals—from cleaning products to chemotherapy drugs—and generate thousands of tons of solid and medical waste each year. As a result, hospitals have begun to emerge as a source of the growing threat of low-level chemical exposure to infants, children, and fertility, a new study in the *Lancet* reveals that states have the highest incidence of work-related asthma of any occupation studied, followed closely by cleaning staff.²

Consistent with their ethical imperative to “do no harm,” healthcare organizations have an obligation to address aspects of their operations that have the potential to negatively impact the health of patients, staff, and the community. The healthcare sector is increasingly recognizing the critical link between human health and environmental health, and is choosing to act upon this knowledge. In response, many hospitals are developing organization-wide programs that demonstrably reduce the effect of their facility’s operations on the environment while concurrently saving money and increasing facility and compliance risks.

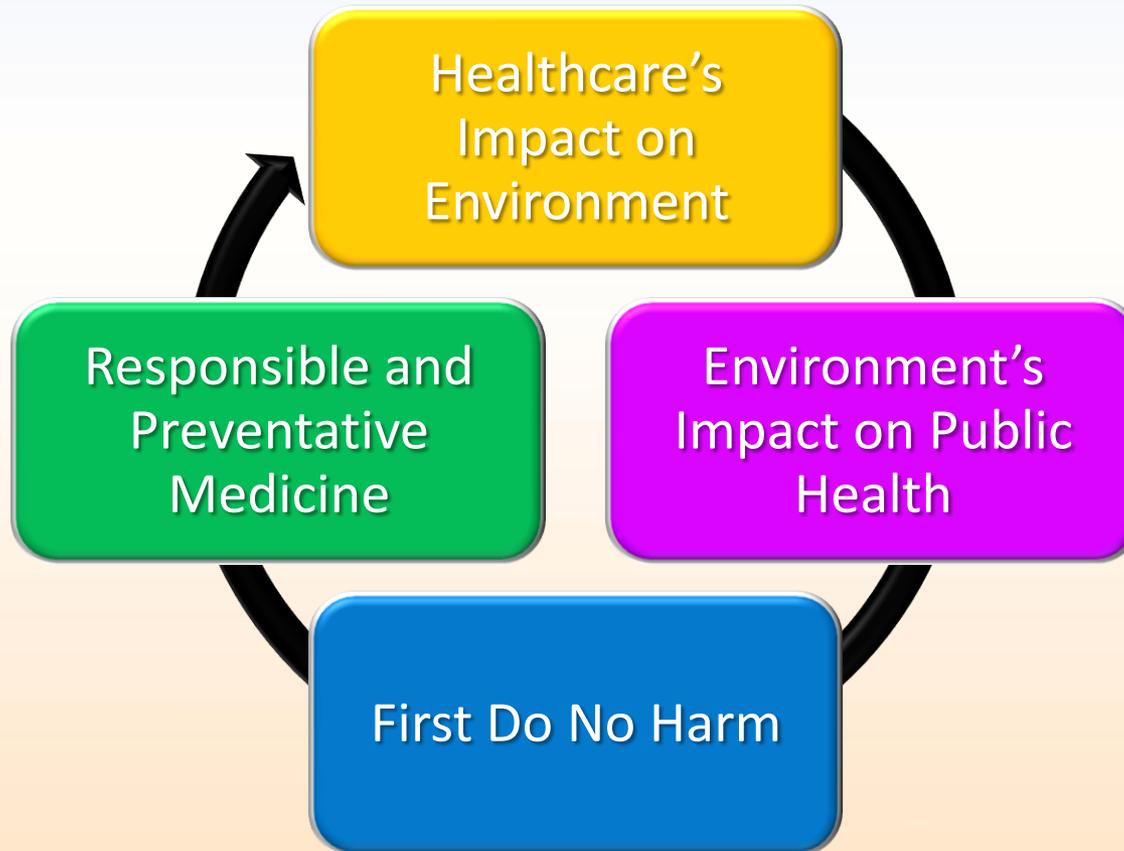
ASTHMA CASES ACCORDING TO OCCUPATION³

Occupation	Percentage of Asthma Cases
Other workers (total)	~22%
Electricians	~25%
Cleaning staff	~32%
Painters	~35%
Plumbers	~38%
Health workers and caregivers	~42%
Workers in printing and graphic arts	~45%

HOSPITALS For a HEALTHIER ENVIRONMENT

Making the Connection

“Ah Ha!”

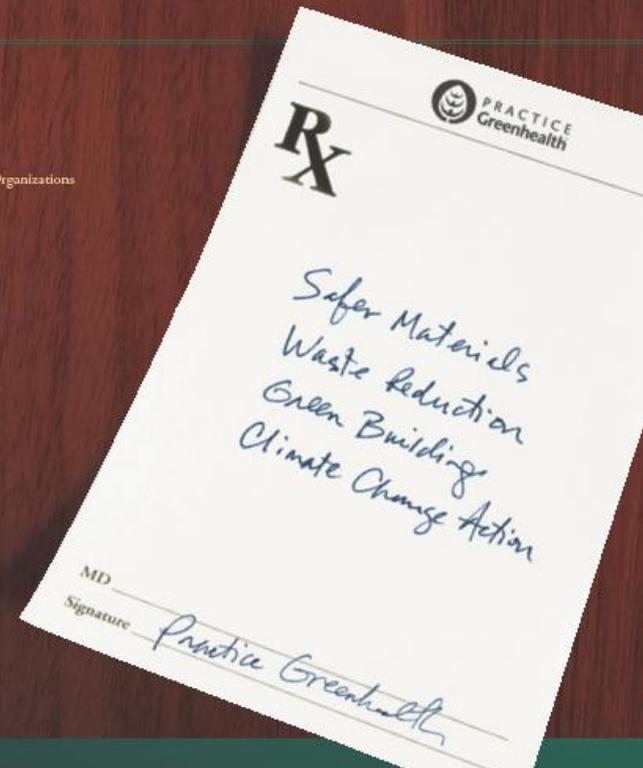


Resource

The Business Case for Greening the Health Care Sector



Report prepared by the
Institute for Innovation in Large Organizations



Principles of Environmental and Recycling efforts



As a responsible and committed member of the city of Boulder and the state of Colorado, Boulder Community Hospital making its obligation to protect and preserve the environment. Boulder Community Hospital will protect the environment by promoting cost-effective business practices consistent with the following principles:

- We meet or exceed all environmental laws and regulations.
- We support and encourage recycling of the materials used within the hospital.
- We minimize waste and ensure that construction waste is disposed of in a safe and responsible manner.
- We work, evaluate and improve technologies that limit the use of non-renewable resources.
- We eliminate emissions of toxic or dangerous substances into air, water or earth.
- We encourage the use of alternative transportation through financial and other incentives.
- We purchase products which contain recycled materials, are recyclable or reusable, and cause the least environmental harm during manufacturing, use, and disposal.
- We pursue conservation of water resources and energy efficiency.
- We actively cooperate with government, education, business, and the public to encourage environmental values and practices.
- We disclose to employees and public, in written form or our operations that cause environmental harm or pose health or safety hazards and are likely to be applied, employees who report to management such adverse conditions.
- Realization of these principles will be achieved by full participation of each of our medical facilities and the sustained commitment of all our physicians and employees.

Adopted by the BCH Board of Directors, May 29, 2001



Healthy Environment - Healthy Community

Statement of Environmental Principles

We, Sustainable Grand Hospital (SGH), affirm our commitment to promote healthier communities both locally and globally, and to be an environmental leader in all aspects of our building and operations in a manner demonstrating protection of environmental and human health.

SGH recognizes the critical link between human health and the health of the environment, and will work, seek and innovative ways to improve environmental performance through conservation, purchasing, education, re-use and recycling programs, and through partnership with others in the community to safeguard the environment.

SGH will apply these principles to achieve optimal environmental standards consistent with our mission, including our commitments to clinical excellence, community benefit, and fiscal responsibility.

In an effort to respect and protect the earth's resources, restore environmental quality, and protect human health, SGH will:

- Uphold environmental responsibility as a corporate value.
- Incorporate environmental considerations and goals into the work and into building design, construction, and renovation strategies.
- Minimize the generation of waste through waste reduction, re-use, and recycling programs.
- Manage, maintain, and eliminate—where possible—the use of hazardous materials.
- Strive to purchase and utilize environmentally preferable products and services.

- Conserve energy/water and improve the overall energy efficiency of our operations. Make every effort to use and promote environmentally safe, cost-effective, and sustainable energy sources.
- Evaluate and minimize such aspects of our organization's impact on global climate change.
- Use renewable natural resources and conserve non-renewable natural resources through efficient use and cost-effective and careful planning.
- Employ prevention strategies to minimize negative environmental impacts to cause a minimum.
- Ensure the health and safety of our employees by promoting safe work practices, reducing exposure to hazardous substances, and using the safest technologies and processes.
- Provide employees with safety and environmental information through training and education programs that enable and encourage them to make work practice decisions in support of these principles.
- Set annual goals and develop action plans to continuously improve the quality and measurable outcomes of our environmental programs.
- Monitor, evaluate, and report on our practices in their relation to these environmental principles.



FOR MORE INFORMATION, CONTACT:
HOSPITALS FOR A HEALTHY ENVIRONMENT
 P.O. Box 376 Phone: 848.735.2000
 One Lyme Common Fax: 848.378.8700
 Lyme, NH 03768 www.hfa.org



UNIVERSITY OF MARYLAND MEDICAL CENTER SUSTAINABILITY PRINCIPLES

Recognizing that maintaining a healthy environment is essential to maintaining both personal and public health, the University of Maryland Medical Center commits to protect healthy patients and communities locally and globally by safeguarding the environment.

The University of Maryland Medical Center provides health care to the community in a safe and healthy manner and fulfills its obligation to protect and preserve the earth's resources by seeking innovative ways to conserve, reduce, reuse and recycle by its own actions and through partnerships with others.

Realization of these principles will be achieved by full participation and the sustained commitment of all our employees, medical staff and vendors.

- We will strive to meet or exceed all environmental laws and regulations.
- We support and encourage recycling of materials used within the hospital.
- We minimize waste and the use of hazardous materials. We ensure that wastes are disposed of in a safe and responsible manner.
- We will use and use sustainable resources and pursue conservation of non-renewable resources through careful planning and cost-effective practices.
- We use pollution prevention activities to reduce negative environmental impact.
- We use products and purchase products which contain recycled materials and are recyclable or reusable.
- We will offer sustainable food options for our patients, family members, visitors, and employees.
- We will use financial resources and integrate sustainability metrics into our administrative risk register to improve the level of environmental performance.
- We will actively participate with government, education, business and the public to encourage environmental values and practices.



Say it out loud.



SUSTAINABILITY TRAINING

3. *Establish sustainability structure and strategy*





Infrastructure & Process



Waste Management



Chemical Management



Healthy Purchasing

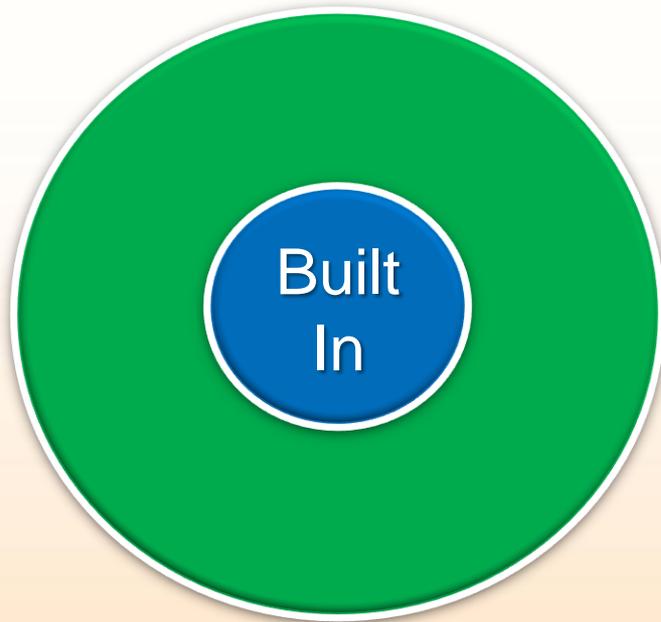


Sustainable Foods

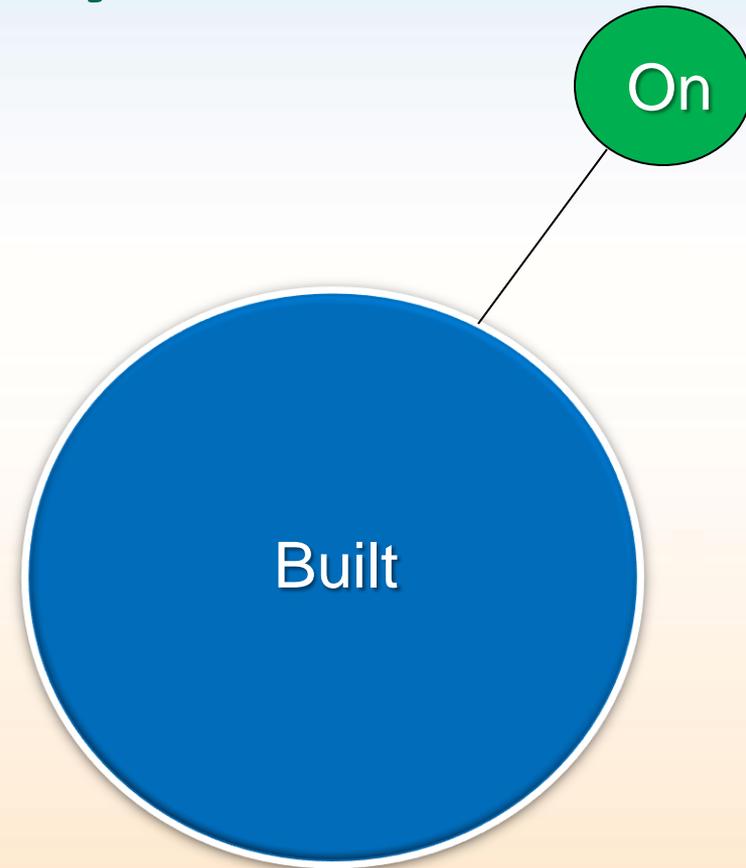


Built Environment

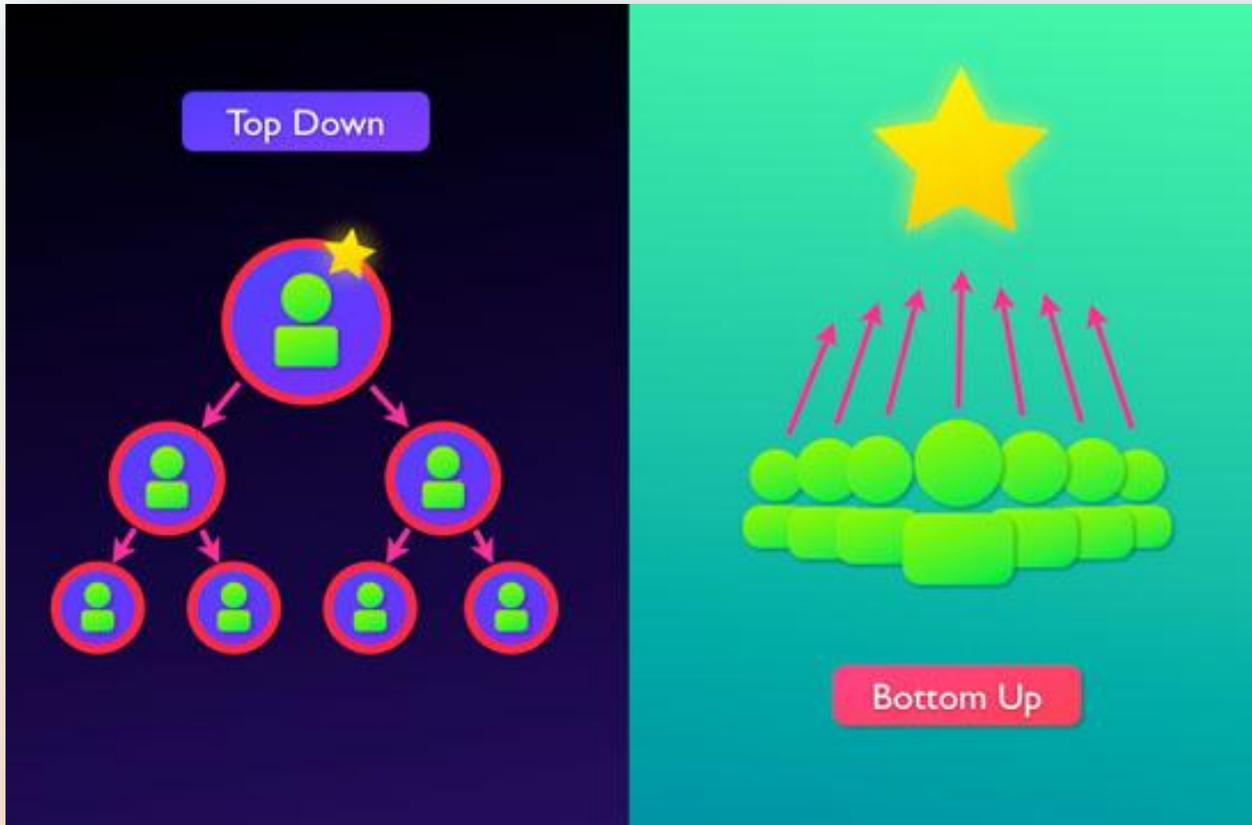
A Culture of Responsibility



NOT



Environmental Stewardship: A Cultural Shift



- Leadership
- Coordination
- Communication
- Education
- Accountability

Where does sustainability work live??

Joint Commission

- Leadership Standards
- Environment of Care Standards
 - Utility Management
 - Hazardous Materials and Wastes
 - Safety
- Emergency Management
- Life Safety Code Standards
- Human Resource Standards
- Medication Management Standards – **NEW!**

Green Team Development

- Administration
- Nursing/Clinical Staff
- Engineering
- Facility Management
- Environmental Services
- Food Services
- Infection Control
- Laboratory
- Marketing/Public Relations
- Pharmacy
- Materials Management
- Risk Management
- Safety



Why is a Team Important?



Order new
light bulbs



What are
specs for
energy
efficiency?



What
happens if
they break
during use?



Proper
storage and
disposal

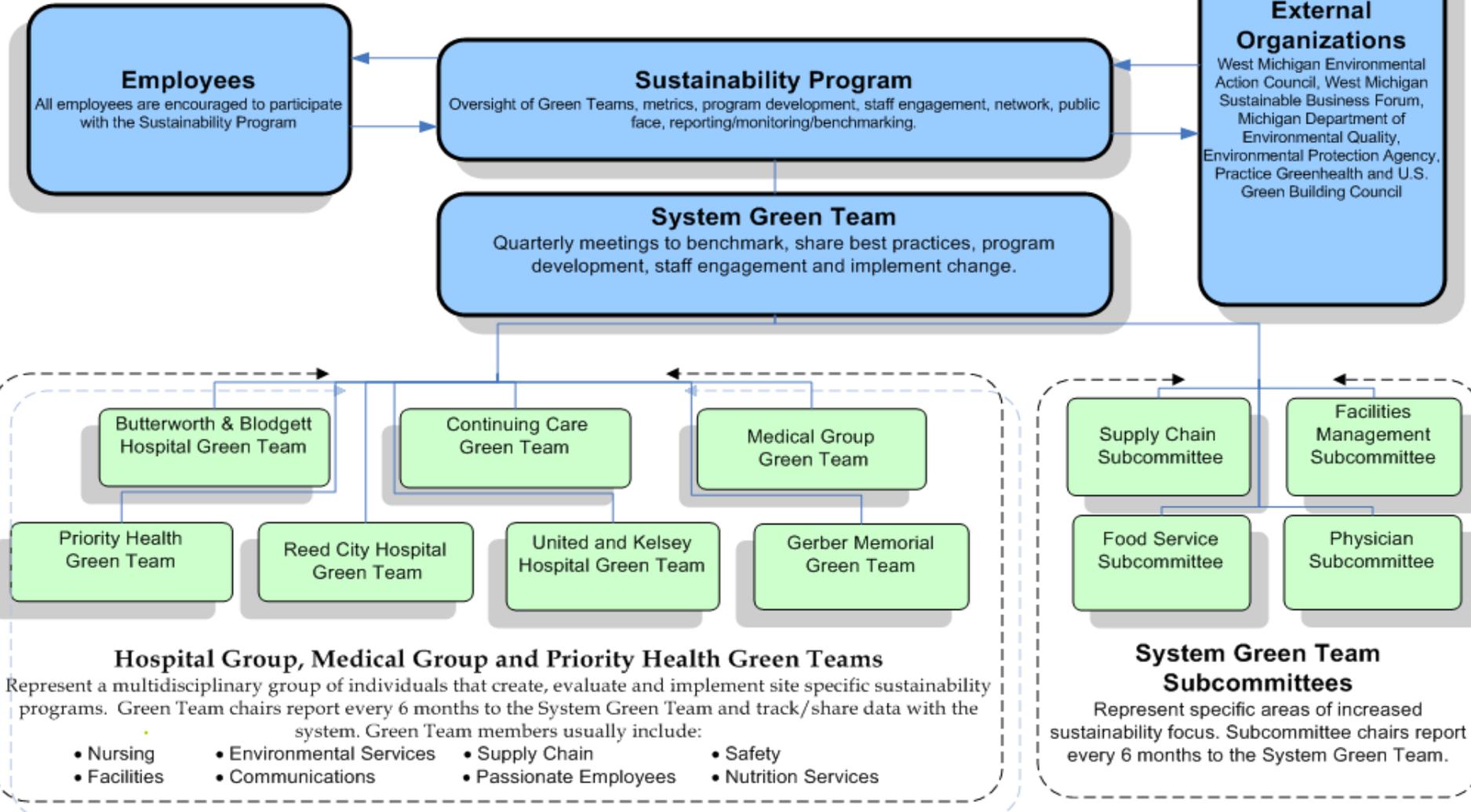
Product Lifecycle

Sample Sustainability Structure – Let us help you!

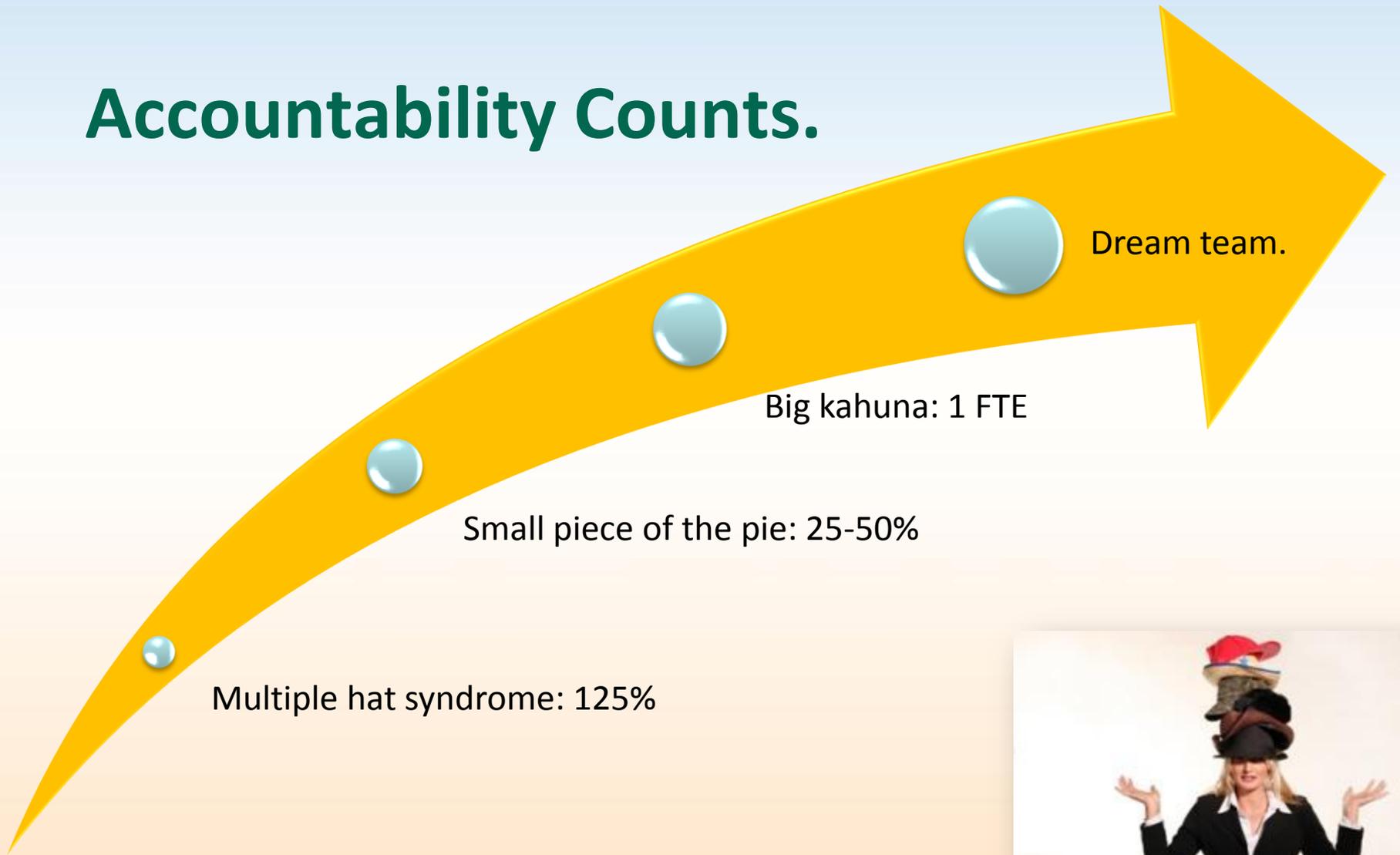


System Sustainability Program

Green Team Organizational Chart



Accountability Counts.

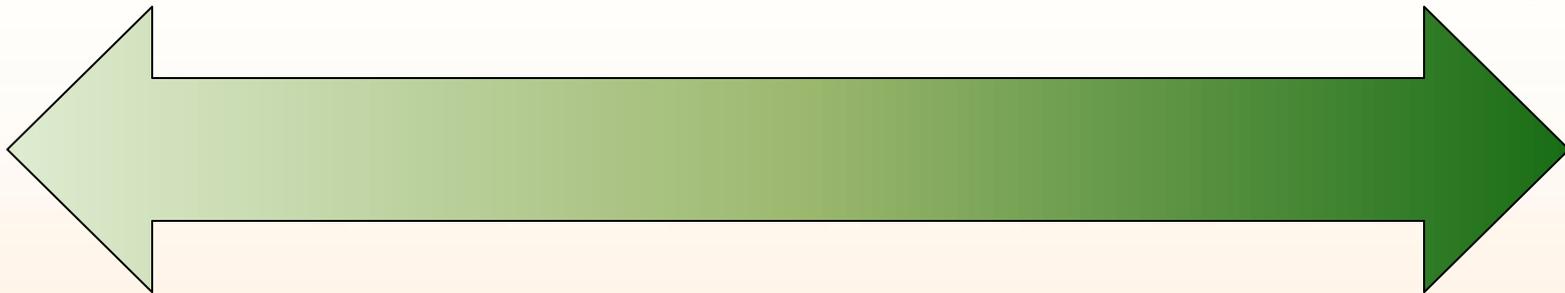


What is a Sustainability Officer?



- Skill sets
- Job tasks
- Experience
- Attitude

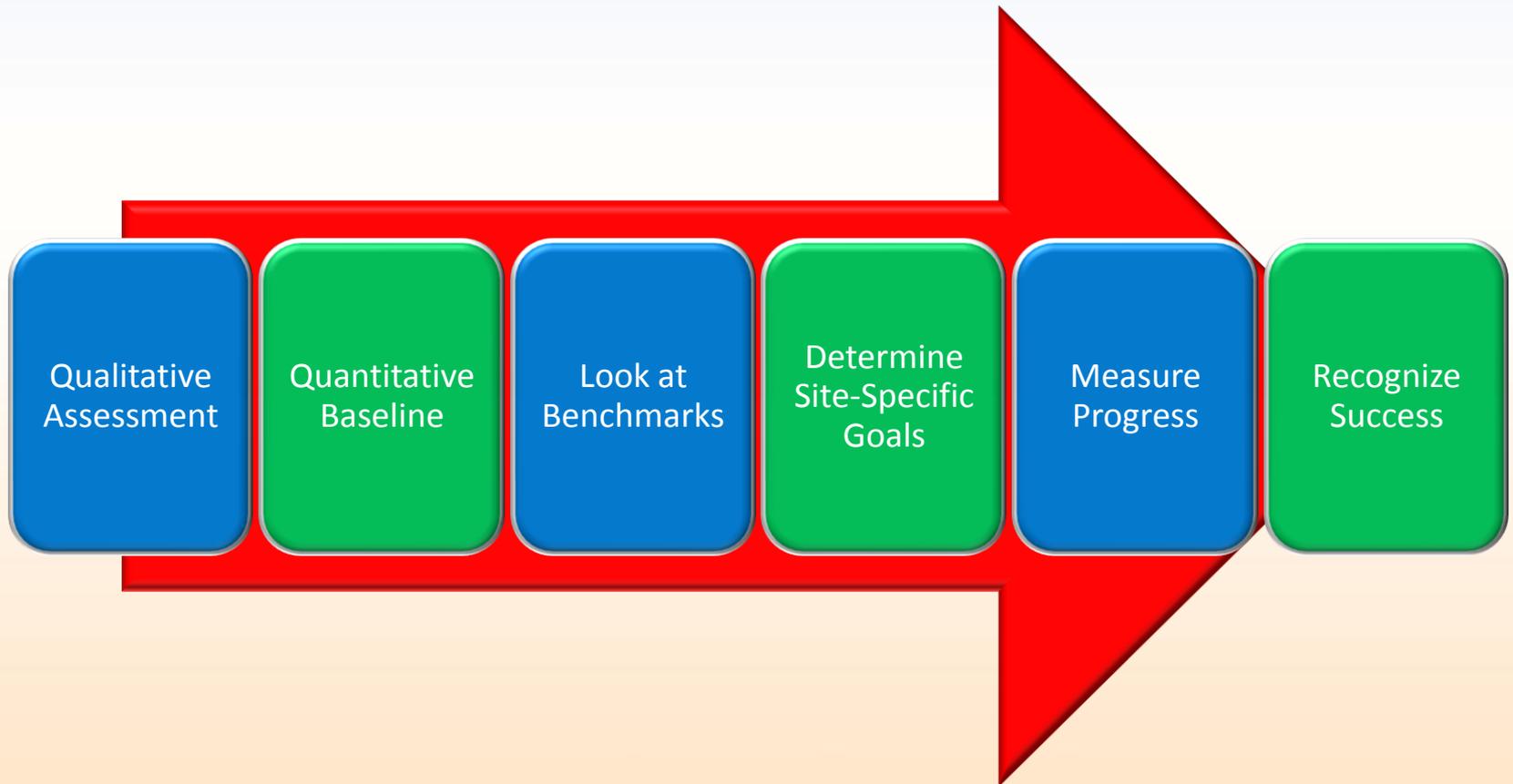
4. Assess – Where is your facility?



Just getting
Started.....

Committed
to Green

Develop a Process



- Everyone starts in a different place
- Different organizational priorities
- Sustainability is not really prescriptive
- Different inputs will generate different priorities



Eco-Checklist Tool



Practice Greenhealth Eco-Checklist™ for Operations

How Green is your Healthcare Organization?

Healthcare ranks among the largest users of energy, highest producers of waste and is a major consumer of paper, water, food, and other resources, resulting in an industry with a huge environmental footprint. In an effort to reduce the impact on the environment, healthcare organizations are asking for information on best practices, guidance in establishing green practices, and ways to measure success. This Eco-Checklist has been designed to provide a quick snapshot of where an organization sits on the green spectrum and highlights the range of environmental programs being implemented in healthcare. Whether your organization is just beginning its sustainability journey or is looking for ways to assess and measure progress, this tool was designed for you.

Measuring Environmental Awareness, Progress and Success

Achieving environmental sustainability or "green" in an organization is a long-term commitment, involving a culture shift that supports a new way of operating. Environmental sustainability is about taking responsibility for the by-products of healing and doing everything possible to demonstrate a commitment to a safe and healthy environment for patients, staff, the community and the planet. This Eco-Checklist is designed to help guide environmental initiatives by identifying programs to implement, suggesting potential goals and priorities, and tracking progress over time. It can also be used to educate the leadership to gain full support and resources for your environmental programs by providing valuable information on the full landscape of healthcare sustainable operations.

Using This Checklist

The activities in the checklist are organized by program area and are not necessarily in hierarchical order, but rather are meant to highlight the range of environmental programs being implemented in healthcare facilities. The activities in the Eco-Checklist are abbreviated for ease of use, and are focused on operational strategies for environmental improvement. This document does not specifically address environmentally sound strategies for design, construction and major renovations. Additional information and background on each initiative is available in greater detail from both Practice Greenhealth and the Green Guide for Health Care. A brief glossary of acronyms and terms used in this checklist (denoted by an *) is available in the appendix. Each organization will need to review the feasibility, available resources, local, state and federal

regulations, and community-specific initiatives, as factors in selecting and prioritizing their programs. A key success factor will be the interest and availability of champions to lead each program. It is important to solicit input and gain commitment from key stakeholders and experts within the organization for each initiative, such as utilization of the Infection Prevention & Control, Safety, Risk Management and Clinical Practice committees to ensure appropriate input for decisions affecting clinical standards.

Additional Resources

Green Guide for Health Care – The Eco-Checklist was adapted from the Version 2.2 of the Green Guide for Health Care's Operations Section, a self-certifying toolkit for greening healthcare operations. The program section titles and activities in the Eco-Checklist are similar to the Green Guide, although not identical. The Green Guide provides more comprehensive information on each program area and can be used as a valuable companion reference for additional information, including: rationale, health statements, measurement tools, technologies, and related regulations and reference standards. The Green Guide for Health Care can be found at www.gghc.org.

Practice Greenhealth – Additional information about the activities in the Eco-Checklist, such as sample policies, case studies, tools, resources and webinars, are available from Practice Greenhealth and can be found at www.practicegreenhealth.org. The Green Guide credits are also referenced on different pages across the website. Practice Greenhealth is a learning community for facilities and organizations to share successes, strategies and practical solutions to healthcare environmental challenges.

© Practice Greenhealth, 2009. This document was developed with support from the Premier Inc. healthcare alliance. Learn more about Premier's GreenHealth™ initiative and commitment to environmental sustainability at www.premierinc.com/greenhealth.

WWW.PRACTICEGREENHEALTH.ORG

PREMIER

VERSION 1.0 - RELEASED APRIL 2009



Operations - Version 2.2, 2008 Revision

Y - (yes) you are moderately confident that you can attain the credit.
 ? - (maybe) it will be challenging for this project and you are uncertain of your ability to attain it but you will try.
 N - (no) while technically possible, you currently don't expect to try to achieve this credit in this project due to cost or other tradeoffs with project goals.
 NA - (not applicable) it is inherently physically unattainable for this particular project regardless of effort due to physical conditions or project scope.

Note: an Excel spreadsheet of this checklist is available for download at www.gghc.org

Integrated Operations & Education 1 Point

Y		Prereq 1	Integrated Operations & Maintenance Process	Required
Y		Credit 1	Education: Staff, Patient and Community Environmental Sustainability Education	1

Sustainable Sites Management 9 Points

Y		Credit 1.1	Site Management: Building Exterior & Hardscape Management Plan	1
Y		Credit 1.2	Site Management: Integrated Pest Management, Erosion Control & Landscape Management Plan	1
Y		Credit 2.1	Reduced Site Disturbance: Protect or Restore Open Space or Habitat	1
Y		Credit 2.2	Reduced Site Disturbance: Structured Parking	1
Y		Credit 3	Stormwater Management	1
Y		Credit 4.1	Heat Island Reduction: Non-Roof	1
Y		Credit 4.2	Heat Island Reduction: Roof	1
Y		Credit 5.1	Connection to the Natural World: Outdoor Places of Respite	1
Y		Credit 5.2	Connection to the Natural World: Exterior Access for Patients	1

Transportation Operations 5 Points

Y		Credit 1.1	Alternative Transportation: Commuting: 10%	1
Y		Credit 1.2	Alternative Transportation: Commuting: 25%	1
Y		Credit 1.3	Alternative Transportation: Commuting: 50%	1
Y		Credit 1.4	Alternative Transportation: Commuting: 75%	1
Y		Credit 1.5	Alternative Transportation: Allowances	1

Facilities Management 40 Points

Y		Prereq 1	Energy Efficiency Best Management Practices: Planning, Documentation & Opportunity Assessment	Required
Y		Prereq 2	Minimum Building Energy Efficiency Performance	Required
Y		Prereq 3	Refrigerant Management - Ozone Protection	Required
Y		Prereq 4	Minimum Indoor Plumbing Fixture and Fitting Efficiency	Required
Y		Prereq 5	Outdoor Air Introduction & Exhaust Systems	Required
Y		Prereq 6	Environmental Tobacco Smoke (ETS) Control	Required
Y		Credit 1.1	Optimize Energy Efficiency Performance: Energy Star score of 67 or EUI of 17% (Required per FM Prereq 2)	1
Y		Credit 1.2	Optimize Energy Efficiency Performance: Energy Star score of 68 or EUI of 19% (Required per FM Prereq 2)	1
Y		Credit 1.3	Optimize Energy Efficiency Performance: Energy Star score of 71 or EUI of 21% better than average	1
Y		Credit 1.4	Optimize Energy Efficiency Performance: Energy Star score of 73 or EUI of 23% better than average	1
Y		Credit 1.5	Optimize Energy Efficiency Performance: Energy Star score of 75 or EUI of 25% better than average	1
Y		Credit 1.6	Optimize Energy Efficiency Performance: Energy Star score of 77 or EUI of 27% better than average	1
Y		Credit 1.7	Optimize Energy Efficiency Performance: Energy Star score of 79 or EUI of 29% better than average	1
Y		Credit 1.8	Optimize Energy Efficiency Performance: Energy Star score of 81 or EUI of 31% better than average	1
Y		Credit 1.9	Optimize Energy Efficiency Performance: Energy Star score of 83 or EUI of 33% better than average	1
Y		Credit 1.10	Optimize Energy Efficiency Performance: Energy Star score of 85 or EUI of 35% better than average	1
Y		Credit 1.11	Optimize Energy Efficiency Performance: Energy Star score of 87 or EUI of 37% better than average	1
Y		Credit 1.12	Optimize Energy Efficiency Performance: Energy Star score of 89 or EUI of 39% better than average	1
Y		Credit 1.13	Optimize Energy Efficiency Performance: Energy Star score of 91 or EUI of 41% better than average	1
Y		Credit 1.14	Optimize Energy Efficiency Performance: Energy Star score of 93 or EUI of 43% better than average	1
Y		Credit 1.15	Optimize Energy Efficiency Performance: Energy Star score of 95+ or EUI of 45% better than average	1
Y		Credit 2.1	Potable Water Use Reduction: Total Building Reduction: Reduce 10%	1
Y		Credit 2.2	Potable Water Use Reduction: Total Building Reduction: Reduce 20%	1
Y		Credit 2.3	Potable Water Use Reduction: Total Building Reduction: Reduce 30%	1
Y		Credit 2.4	Potable Water Use Reduction: Total Building Reduction: Reduce 40%	1
Y		Credit 2.5	Potable Water Use Reduction: Total Building Reduction: Reduce 50%	1
Y		Credit 2.6	Potable Water Use Reduction: Water Efficient Landscaping	1

www.gghc.org



Energy Star for Healthcare

- Guidelines for Energy Management
- Evaluate Your Hospital's Energy Performance
- Healthcare Benchmarking Starter Kit
- Portfolio Manager

STATEMENT OF ENERGY PERFORMANCE
Sample Facility
Building ID: 1033018
For 12-month Period Ending: October 31, 2004¹
Date SEP Generated: November 12, 2004

Sample Facility
1234 Main Street
Alexandria VA 22304
Gross Building Area: 20,000 sq ft
Year Built: 1978

Owner
Sample Organization
Contact: John Smith
1234 Main Street
Arlington VA 22201
703-555-7894

Facility Space Use Summary

Space Type	Area ² (sq ft)	Occupants	Operating hours/week	Number of PCs
Office (General)	20,000	600	40	25

Site Energy Use Summary

Electricity (kBtu)	128,374
Natural Gas (kBtu)	0
Total Energy (kBtu)	128,374

Professional Verification
Jane Smith
1234 Main Street
Arlington VA 22204
703-555-7894
License Number: 123456789
State: VA

Results

Energy Performance Rating³ (1-100) 100

Energy Intensity⁴

Site (kBtu/ft ² /yr)	6.3
Source (kBtu/ft ² /yr)	10.8

Emissions

CO ₂ (1000 lbs/yr)	262
-------------------------------	-----

Indoor Environment Criteria⁵

Indoor air pollutants controlled?	Yes
Adequate ventilation provided?	Yes
Thermal conditions met?	Yes
Adequate illumination provided?	Yes

Professional Engineer Stamp
Based on the conditions observed at the time of my visit to this building, I certify that the information contained in this statement is accurate.

Notes:
1. Application for ENERGY STAR must be submitted to EPA within 4 months of the Period Ending date. Award of ENERGY STAR is not final until approved or rejected from EPA.
2. Natural Gas values in units of volume (e.g., cubic feet) are converted to kBtu with adjustments made for detection based on facility gas usage.
3. An energy performance rating of 75 is the minimum required rating to be considered eligible for ENERGY STAR.
4. Values represent energy intensity, adjusted to a 30.0 day calendar.
5. Based on meeting ASHRAE Standard 55-1999 for indoor air quality, ASHRAE Standard 55-1999 for thermal comfort, and ES2004 Lighting Handbook for lighting quality.
Tracking Number: SEP200411030001008100

www.energystar.gov



TOOLS, KNOWLEDGE AND
EXPERTISE FOR SUCCESSFUL
ENERGY PROCUREMENTS



Energy Impact Calculator - Health - Windows Internet Explorer

Address bar: http://www.eichealth.org/calctest2.asp

Search: [Google]

Navigation: File Edit View Favorites Tools Help

Energy Impact Calculator - Health



Healthcare Energy Impact Calculator

Tools for Healthcare Providers

Programs of PRACTICE Greenhealth

Hospital X - Any One - (555) 555-1234

1: ECAR

East Central Area Reliability Coordination Agreement

kWh per Year:

Clean Energy Fraction: %

Pollutants	Annual Quantity	Pollutant Permit Costs
SO2 (Tons):		per year
NOx (Tons):		per year
CO2 (Tons):		EU Pricing
Mercury (Tons):		per year

Incidents	Per Year	Societal Value	Direct Medical Costs
Premature Death:			
Chronic Bronchitis:			
Hospital Visit Incidents:			
Asthma Attacks:			
Respiratory Symptoms:			
Work Loss Days:			
Mercury Related:			

Totals:
Unintended Impacts/kWh:

[Resources & Take Action](#)

EIC calculations are estimates based on best-available, peer reviewed national and regional data. Your actual numbers and values may vary. Practice Greenhealth is not responsible for decisions or actions based wholly or in part thereon.

© 2008 Practice Greenhealth | [Home](#) | [Terms of Use](#) | [Privacy Policy](#) | [Contact](#)

Health Info

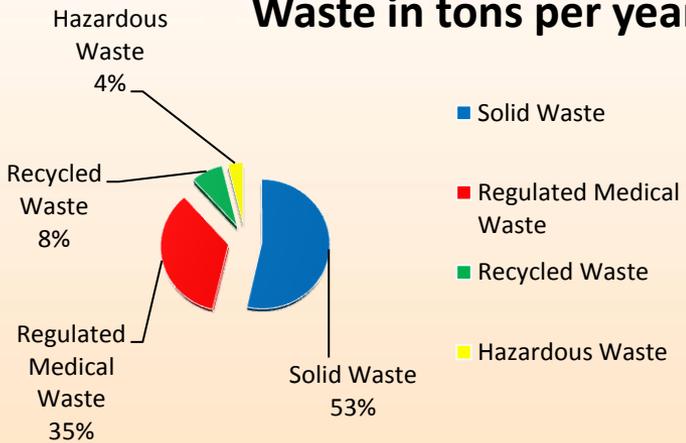
- + kWh per Year
- + Clean Energy Fraction
- + Pollutant Permit Costs
- + Sulphur dioxide, SO2 (Tons)
- + Nitrous oxide, NOx (Tons)
- + Carbon dioxide, CO2 (Tons)
- + Mercury, Hg (Tons)
- + Societal Value
- + Direct Medical Costs
- + Premature Death
- + Chronic Bronchitis
- + Hospital + ER Visits
- + Asthma Attacks
- + Respiratory Symptoms
- + Work Loss Days

What Kinds of Waste Does Healthcare Produce?

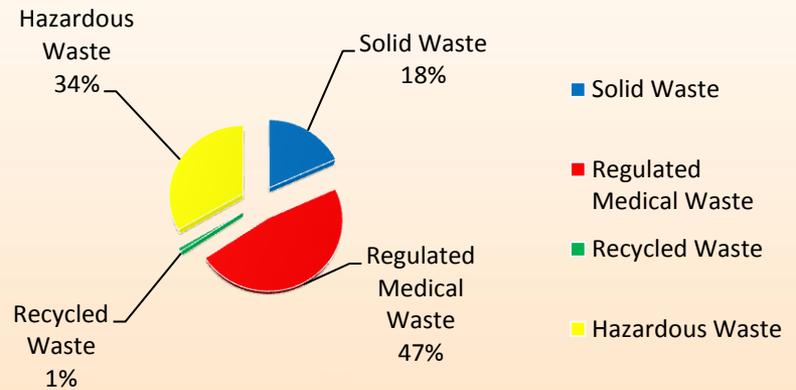
Solid Waste	Regulated Medical Waste	Hazardous Waste	Chemotherapy Waste
Liquid Waste	Universal Waste	Recycling	Organic Waste
C&D Waste	Pharmaceutical Waste	Sharps	Donations

Waste Management Category	In tons per year	Percent of Total Waste	Waste Management Category	Cost of Waste per pound	Cost of Waste Annually	Percent of Total Cost
Solid Waste	157	54%	Solid Waste	\$0.06	\$ 18,840	18%
Regulated Medical Waste	102	35%	Regulated Medical Waste	\$0.24	\$ 48,960	47%
Recycled Waste	23	8%	Recycled Waste	\$0.02	\$ 920	1%
Hazardous Waste	11	4%	Hazardous Waste	\$1.57	\$ 34,540	33%
Total Waste	293	100%	Total Cost		\$ 103,260	100%

Waste in tons per year



Cost of Waste in \$



PRACTICE GREENHEALTH 2010 Sustainability Benchmark Report

A Practice Greenhealth Member Benefit



- 114 Award Applications and
- 24 Top Award Winners
- Benchmarks
- Activities
- Trends
- Emerging Activities

Purchasing: A Lifecycle Approach



- Everything that comes in must go out.
- No such place as “away”.
- Waste reduction starts with purchasing.
- Purchasing environmentally preferable products can positively affect worker health, patient health and the environment



Compliance and Liability

- Regulatory Compliance: Increased attention to management of chemicals, waste, materials will enhance environmental compliance
- Liability: Precautionary, common sense approach can prevent longer-term liability → for waste mgmt, patient care, worker's comp, etc.



Policies



Clinical Devices



Facilities



Laboratory



Dental



Other

Mercury

Chemical Management

What chemicals and for what purpose?

Know worker safety and regulatory requirements.

Which chemicals are negatively impacting health?

Investigate less-toxic alternatives.

It doesn't have to be RCRA-hazardous to be dangerous.

Perspectives on Sustainability

STAFF RETENTION

Morale

Compliance

SAFETY

HEALTH

Risk

Mission

engagement

Sustainability

responsibility

Ethics

Patient Experience

Planetary Health

Healing Environments

Public Health

COMMUNITY

efficiency

Quality



Are We Being Strategic?

- Why sustainability now? Why Not?
- Do we understand how we are positioning ourselves?
- Do we understand how sustainability applies to our organization?
- Are the benefits clear?
- How do we compare to our peers?



5. Goal Setting



Measurable



Accountable



Strategic



Low Hanging Fruit

- Red Bag Reduction
- Fluid Management
- Reusable Sharps
- Single Use Device Reprocessing
- Energy Conservation
- Water Conservation
- Material Recycling



Round 2, 3, 4 or 5th year

- Sustainability Reporting
- Sustainability as a community benefit
- Patient Education
- Green Building Standards
- Transportation Activities
- Farmer's Markets
- Signing Health Care Without Harm's Healthy Food Pledge
- Renewable Energy Procurement
- Green Roofs, Healing Gardens

What is EPP?

- Selecting products & services whose environmental impacts have been considered and found to be preferable to comparable alternatives.
- A way for purchasers to implement their values and goals as they relate to environment, health, and safety.
- Performance, availability, and price

Incremental

Comparative

Evolving

Healthy Food in Health Care



Nutritious, Whole Foods



Environmentally Sound



Economically Viable



Socially Responsible

Green Design and Renovation Standards



Benefits



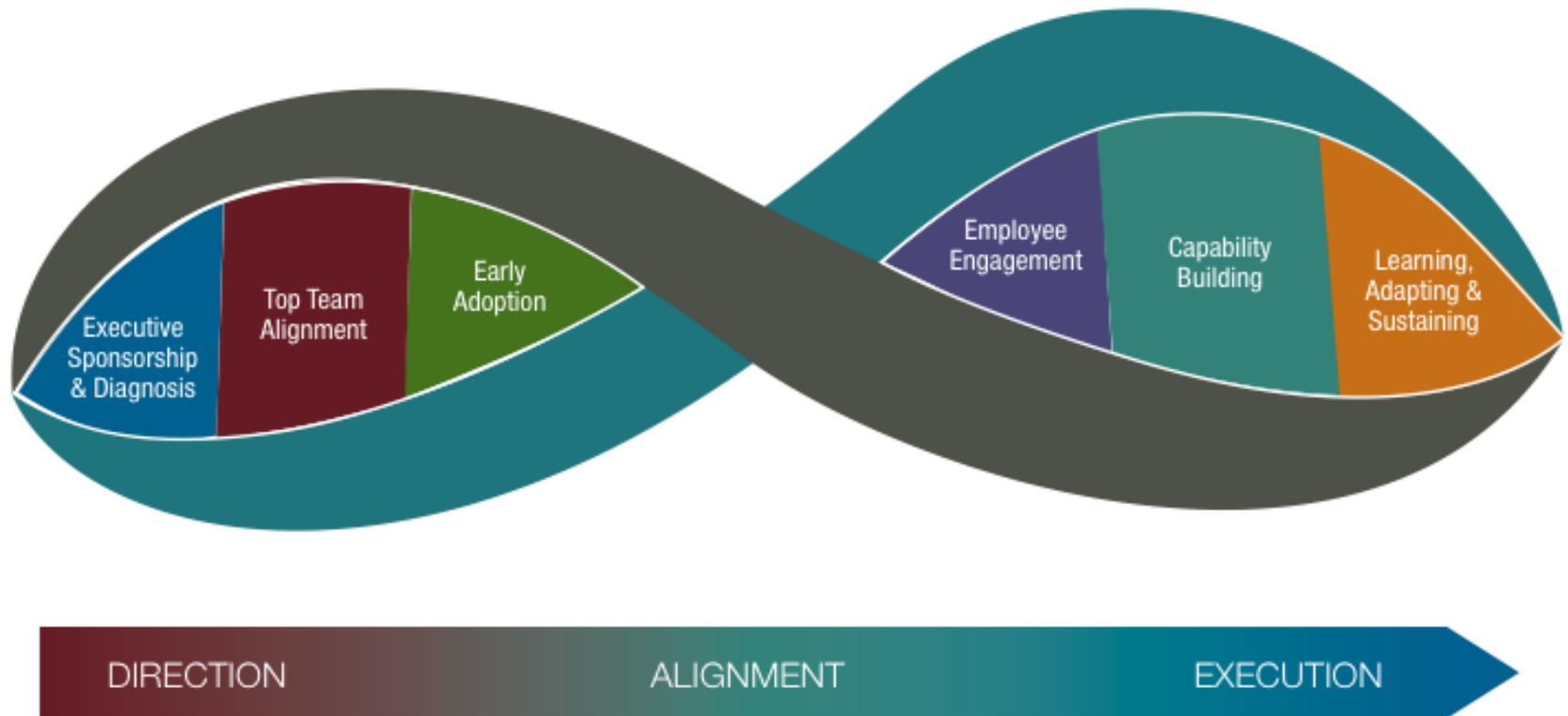
- **Improved staff recruitment and retention**
- **Occupant and staff well-being**
 - Non-toxic cleaners, daylighting, enhanced air quality
 - Respect for staff
- **Patient satisfaction**
 - Decreased length of stay
 - Reduced reliance on medication
 - Lessened mental and physical stress
 - Fewer medication errors
- **Financial effectiveness**
 - Reduced operating costs
 - Philanthropic and public grant opportunities

6. Program Development and Kick Off

- Identify lead, team, support
- Business Partners
- Procure products or services
- Develop educational materials
- Gather Baseline Data
- Connect with successes (if available)
- Start small – pilot
- Educate, Educate, Educate
- Measure, Monitor and never stop!
- Integrate into standard operating procedures

7. Education and Culture Change

CULTURE CHANGE SEQUENCE OF LEVERS



Who leads Sustainability at your site?

Do you have an eco structure in place?

What are your facility's environmental goals?



Does your facility provide Eco Education?

Are you tracking sustainability metrics?

Is sustainability part of your strategic plan?

Culture Change Strategies

- Departmental Champions
- New Employee and Annual Training
- Earth Day Events
- Rebates, incentives
- Contests, recognition & awards
- Newsletters, brochures, marketing material, patient and staff education
- Community educational activities
- Grants and Research and clinical engagement

Internal Recruitment & Engagement

- Attend pre-existing meetings
- Newsletter
- Table tents
- Posters
- Branding: logo, slogan
- T-shirt or lapel pins
- Hospital intranet
- Screen-savers



Recognition

For each level of certification reached, Green Champions will receive:

- Recognition at Quarterly Campus Green Champion meetings
- Certificate to post in department or on unit. (*SAMPLE below*)



Branch One:

Green Champion Education:

- You, the Green Champion, have conducted at least one in-service with your team at your manager's team meeting.
- You conduct on-going, brief reminders about recycling protocol at huddles, team meetings. You provide information as necessary to your team about new programs/updates about *NYPgreen*
- You have introduced yourself to your EVS supervisor and housekeeper and let them know you are the Green Champion.

Recycling bins and bags:

- Your department has a recycling bin with a blue bag.
- You observe / audit your bin(s) to note what contaminants are being placed there, and in-service as appropriate.

Energy conservation:

- You participate in Hospital "unpower hours". Technology, machines and other devices critical to patient care and operations should NOT be touched during this hour.
- You create an awareness campaign on your unit to switch lights off that aren't in use (conference rooms, copier rooms, offices).
- You have taken the Energy Star pledge.
- You have engaged 50% of your co-workers to take the EnergyStar pledge.

Find your personal narrative...

Visioning

Mission

Strategy

Structure

Education

Advocacy

Engagement

Communication



8. Community Leadership

- Defining Community
- Research/Journals
- Speaking Engagements
- Earth Day Events
- Visiting Lecturer
- Regional Activities
- Community Meetings



Healing Our People...
Our Planet

CHW's Environmental Commitment

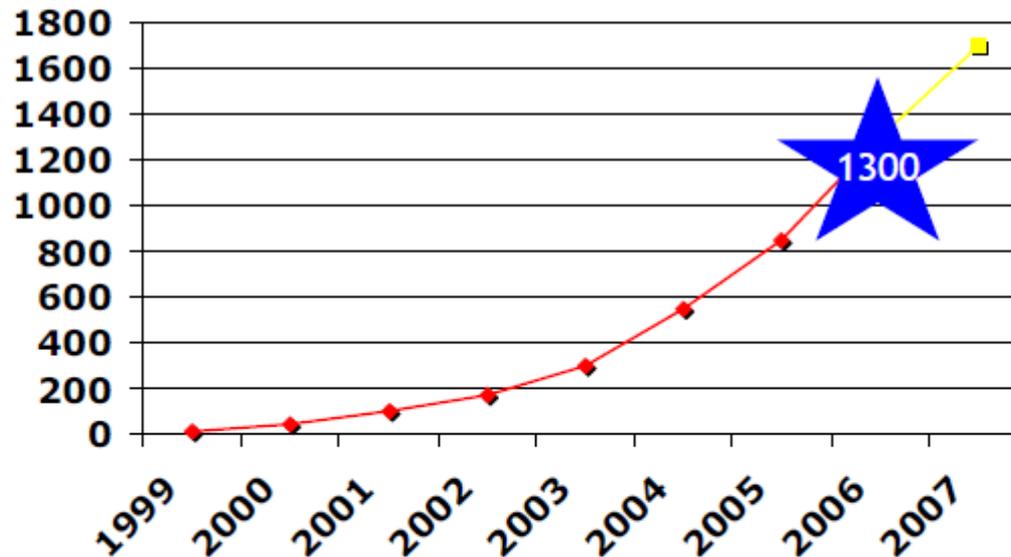
9. Reporting & Communications



Investors and Environmentalists
for Sustainable Prosperity

Use of the GRI

Uptake of GRI reporting



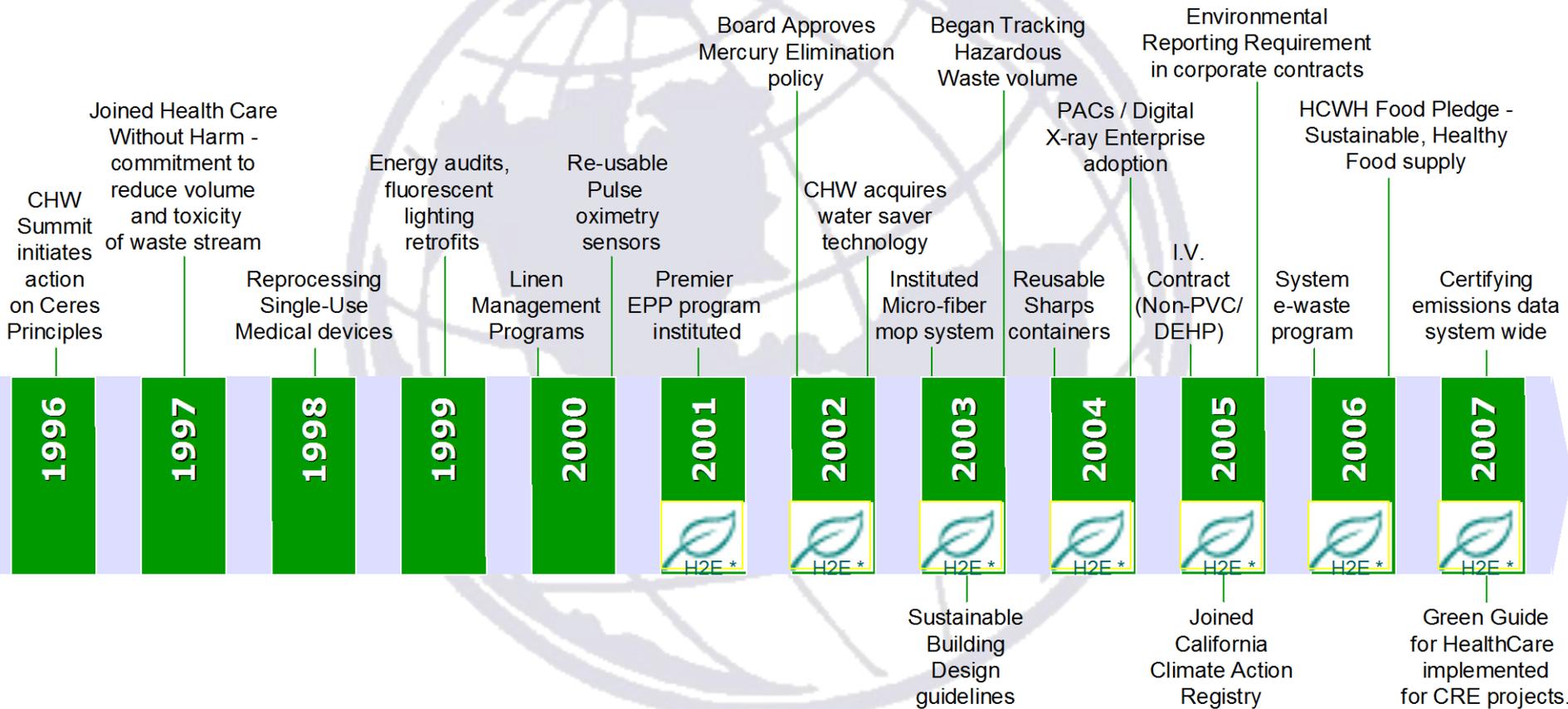
Sample Websites

- Website development, intranet site
 - <http://www.gundluth.org/green/>
 - http://www.spectrum-health.org/body_tabs.cfm?id=1897

CHW's Growing Environmental Actions

“Our Earth is talking to us...we must listen to it and decipher its message if we want to survive.”

Pope Benedict XVI



What's Next: Sustainability Dashboard

Environmental Stewardship Structure	Hospital								Percent of Facilities by Initiative			
	A	B	C	D	E	F	G	H	Fully Implemented	In Progress	Not Yet Underway	Not Aware of Program
Establish organizational Environmental Mission Statement or overarching environmental policy including values and goals for greening construction and operations.	2	2	3	0	2	2	1	1	13%	50%	25%	13%
Establish Green Team or "environmental committee" to design, implement and manage environmental sustainability initiatives.	3	2	3	3	3	2	3	1	63%	25%	13%	0%
Develop Green Team Identity (e.g., logo/branding) for facility's sustainability initiatives.	3	2	3	3	2	2	3	1	50%	38%	13%	0%
Identify Sustainability Director or designate other specific individual or champion to lead environmental sustainability programs throughout organization.	3	3	3	3	3	2	1	1	63%	13%	25%	0%
Seek sources of funding for green projects and incentive opportunities, (e.g., philanthropic resources).	2	1	1	0	2	2	0	1	0%	38%	38%	25%
Percent of Initiatives By Facility												
Fully Implemented	60%	20%	80%	60%	40%	0%	40%	0%				
In Progress	40%	60%	0%	0%	60%	100%	0%	0%				
Not Yet Underway	0%	20%	20%	0%	0%	0%	40%	100%				
Not Aware of Program	0%	0%	0%	40%	0%	0%	20%	0%				



By number of facilities who have implemented a particular initiative

© 2009 Practice Greenhealth

By number of initiatives implemented per facility



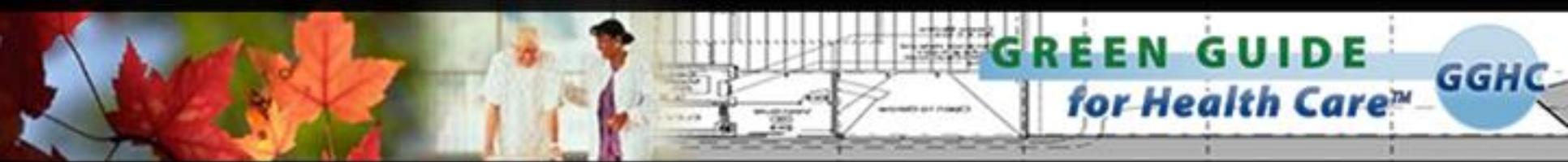
10. Recognition & Appreciation

- Newsletters, Parties, Photographs
- Awards
- Earth Day Events





Resources



Best Practices for Creating High Performance Healing Environments™

A Guide to Greening Health Care Construction and Operations

Green Guide for Health Care

www.gghc.org

A self-certifying guidance document for harnessing best practices in the health care industry.



A self-certifying guidance document for harnessing best practices in the health care industry.

October 2004 Version 2.0 Pilot

Copyright © 2004 GGHC
www.gghc.org



SUSTAINABILITY TRAINING

©
Pra
ctic
e



**Education
&
Resources**

- Operations
- Regulations & Standards
 - HIPAA
 - Clean Air Act
 - Clean Water Act
 - FIFRA
 - RCRA
 - TSCA
 - State Resource Locators
 - DoT
 - OSHA
- Clean Energy
- Environmental Purchasing
- Design & Construction

Home > Education & Resources > Regulations & Standards > State Resource Locators

State Resource Locators

Keeping up with state and local environmental requirements can be a challenge. Many states have prepared excellent information resources, and offer forms and other materials on line. But first you have to find them.

State resource locators for a range of topics have been prepared to help you find important environmental compliance information specifically for your state.



[RCRA/Hazardous Waste Resource Locator](#)

The rules for managing hazardous waste can vary from state to state. Find your state's regulations, along with permit forms, guidance, contact information and other helpful resources.



[Mercury Resource Locator](#)

Find links to agencies, regulations, resources that can help you determine your environmental responsibilities associated with mercury-containing devices or mercury spills.



[Universal Waste Resource Locator](#)

Some common items (batteries, pesticides, etc.) may be exempt from hazardous waste rules. Find out which items are designated as Universal Wastes in your state, link to state regulations, and local contacts at state agencies for more information.



[Air Pollution Resource Locator](#)

Find state and regional regulatory agencies and rules covering topics such as open burning, smoke and dust.



Compliance Information

<http://www.practicegreenhealth.org/educate/regs/srl/>



Healthy Food

www.noharm.org

- Antibiotic-free meat/poultry
- rBGH-free milk
- Organic and other certified foods
- Certified coffees
- Locally-sourcing food
- Fast-food free zone
- Farmers' markets
- Hospital gardens
- Compost & reduction of food waste
- Hospital food policy
- Vending machine use

Menu of Change

Healthy Food in Health Care

A 2008 Survey of Healthy Food in Health Care Pledge Hospitals



Leadership in Energy & Environmental Design



LEED®

A voluntary, consensus-based standard for developing high-performance, sustainable buildings



Metro Health Hospital
LEED® Certified 2009



www.usgbc.org





NURSES' HEALTH

A Survey on Health &
Chemical Exposures

A first ever national survey of nurses' exposures to chemicals, pharmaceuticals and radiation on the job suggests there are links between serious health problems such as cancer, asthma, miscarriages and children's birth defects and the duration and intensity of these exposures.

The survey included 1,500 nurses from all 50 states.

http://www.ewg.org/sites/nurse_survey/analysis/summary.php



Addressing Climate Change in the Health Care Setting

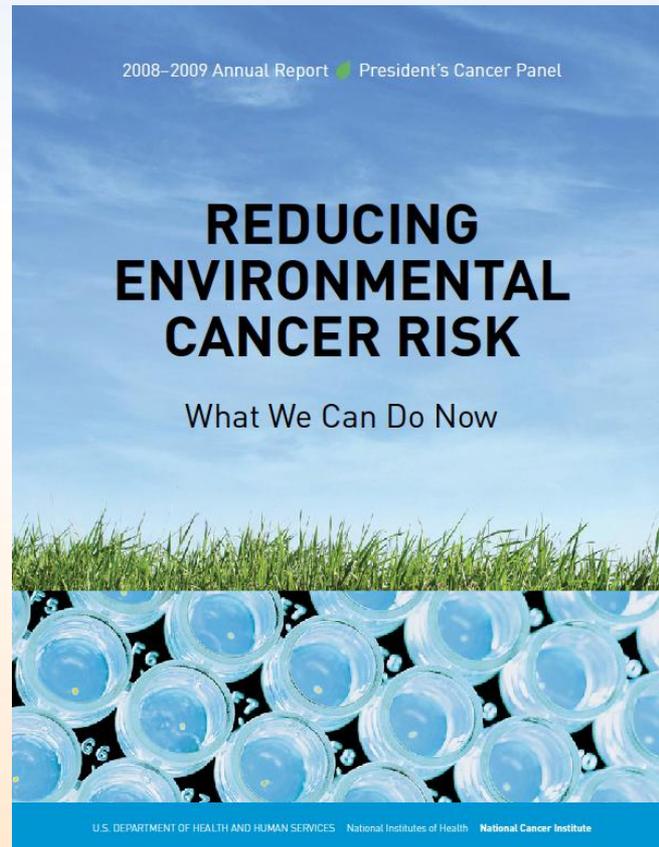
Opportunities for Action



Online at:
www.noharm.org/us



President's Cancer Panel Report Released



http://deainfo.nci.nih.gov/advisory/pcp/pcp08-09rpt/PCP_Report_08-09_508.pdf

Arm Yourselves with information!

- Environmental Health News

<http://www.environmentalhealthnews.org/>

Join the community..

- Join for free introductory webinar
- [Practice Greenhealth - www.practicegreenhealth.org](http://www.practicegreenhealth.org)
- [Green Guide for Health Care www.gghc.org](http://www.gghc.org)
- Sign up for Info Exchange List Serve: <http://cms.h2e-online.org/listserv>
- Stay Connected!



Recap! What is a sustainability “plan”?

- Support from leadership, language, strategic plan, reporting structure, communication plan
- Identified lead, committee and reporting structure (including JCAHO and other committees.)
- Strategic Goals identified as a committee, measurable, accountable, with a deadline
- Training & education, engagement, culture
- Written protocol, standardized reporting templates, meeting minutes, policy development
- Reporting – internally and to community
- Continue, track, review, report!



Janet Brown

jbrown@practicegreenhealth.org

413/253-0254

www.practicegreenhealth.org