

Energy Practice Checklist — SEM for Healthcare



INTRODUCTION

This checklist will help you evaluate your current energy management practices and determine which can be improved. The information is important for the development and implementation of Strategic Energy Management (SEM).

Through gathering information from various people you can begin to create organization-wide interest in SEM. The process will give you a legitimate opportunity to talk with executives and other key decision makers in areas such as medical and purchasing. You will discover how other departments do business and look at energy efficiency. You will find supporters and detractors. This information can be used as a foundation for SEM.

HOSPITAL NAME: _____ Info Provider _____ DATE: _____

A. ENERGY COSTS AND SAVINGS POTENTIAL

Information sources and key contacts:

					NOTES
OPERATING COSTS (most recent 12 months available)		mo./yr. to mo./yr.	Total Annual Dollars	Square Feet	
A1	Electricity costs		\$		
A2	Natural gas costs		\$		
A3	Oil costs		\$		
A4	Water costs		\$		
A5	Other resource costs		\$		
BENCHMARKING DATA FROM ENERGYSTAR PORTFOLIO MANAGER		mo./yr. to mo./yr.	EUI or Score		
A6	Energy Use Intensity (EUI) (Btu/Sq. Ft.)				
A7	ENERGY STAR Score				
WITH STAFFING COSTS REMOVED, WHAT PERCENT OF OPERATING COSTS ARE MADE UP OF...		mo./yr. to mo./yr.	%		
A8	Electricity costs				
A9	Natural gas costs				
A10	O&M costs				
POTENTIAL PERCENT REDUCTION (known or estimated) IN:		Potential % Reduction			
A11	Electricity costs				
A12	Natural gas costs				

B. ENERGY MANAGEMENT SUCCESSES AND "WISH LIST"

Information sources and key contacts:

					NOTES
EXISTING BUILDING EFFICIENCY PROJECTS — LAST 5 YEARS, NEXT 2					
B1	Project Description. (e.g., audits, building or equipment tune-ups, retrofits/replacements, system redesigns, optimization, upgrades)	Year(s)	Estim. \$	If known: - Energy saved - Financial return (ROI or IRR)	> Contractor if used > Incentives or other utility support
1					
2					
3					
NEW CONSTRUCTION AND RENOVATION EFFICIENCY — LAST 5 YEARS, NEXT 5					
B2	Project Description (include efficiency, integrated design, other green features, utility incentives received)	Year(s)	Estim. \$ and Sq. Ft.	If known: % better than energy code	
1					
2					
3					
ENERGY MANAGEMENT "WISH LIST"					
B3	Description	When?	Estim. \$		
1					
2					
3					

C. SUPPORT AND PLANNING FOR ENERGY MANAGEMENT

Information sources and key contacts:

NOTES

C1	Is there a facility-wide [or system-wide] energy management plan?	Yes	No	Don't know	If yes, does it have timeline and responsibilities? Ask for copy.
C2	IF YES >> Did the executive level approve it?	Yes	No	Don't know or not applicable	
C3	Would you describe executive commitment to energy management as high, medium or low?	High	Medium	Low	Who supports, who doesn't?
C4	In addition to yourself, who else in the organization is key to semp success?	Describe:			CFO, construction manager, purchasing director, etc.
C5	Even if there's no formal plan, are there energy performance targets for existing buildings? New buildings?	Yes - what?	No	Don't know	
C6	IF YES >> Have you been able to meet them?	Yes	No	Don't know	

D. HOSPITAL MISSION/GOALS AND LINKS TO ENERGY MANAGEMENT

Information sources and key contacts:

NOTES

D1	Are there "formal," written mission-critical goals?	Yes	No	Don't know	Describe or attach document(s):
FACILITY STAFF					
D2	What goals/issues/problems are currently most important to these decision makers?	Describe or attach document(s):			
D3	How can energy management support these issues and goals?	Describe or attach document(s):			Where do they see key connections?
PURCHASING DIRECTOR					
D4	What goals/issues/problems are currently most important to these decision makers?	Describe or attach document(s):			
D5	How can energy management support these issues and goals?	Describe or attach document(s):			Where do they see key connections?
MEDICAL AND NURSING STAFF AND DIRECTORS					
D6	What goals/issues/problems are currently most important to these decision makers?	Describe or attach document(s):			
D7	How can energy management support these issues and goals?	Describe or attach document(s):			Where do they see key connections?
OTHER - E.G., ENVIRONMENT OF CARE COMMITTEE, GREEN TEAM					
D8	What goals/issues/problems are currently most important to these decision makers?	Describe or attach document(s):			
D9	How can energy management support these issues and goals?	Describe or attach document(s):			Where do they see key connections?
EXECUTIVES AND FINANCE DIRECTOR					
D10	What goals/issues/problems are currently most important to these decision makers?	Describe or attach document(s):			
D11	How can energy management support these issues and goals?	Describe or attach document(s):			Where do they see key connections?

E. STAFF RESPONSIBILITIES, MANPOWER LEVELS, TRAINING NEEDS

Information sources and key contacts:

					NOTES
E1	Who is currently responsible for energy management at your [facility][system]? Are responsibilities for energy efficiency included in job descriptions?	Describe:			
E2	Are there enough staff to cover current needs and do they have the appropriate training? (see also Section I below)	Describe:			

F. BUDGETING AND APPROVAL PROCESS FOR ENERGY EFFICIENCY INVESTMENTS

Information sources and key contacts:

					NOTES
F1	What is the hospital's current operating margin? Is improvement a stated goal?	Margin:	Goal to improve? Y N DK		
F2	Describe the decision-making process for funding or approving energy efficiency investments.	Describe:			If system - is decision making centralized?
F3	Is the total cost of owning, operating, maintaining and disposing of the equipment considered when making investments in energy efficiency (total cost of ownership/LCCA)? Who does this type of analysis?	Yes	No	Don't know	
F4	Is there a specific "hurdle rate" (financial return) that energy efficiency investments must meet?	Yes	No	Don't know	If yes, what?
F5	Is it the same as for non-energy-related capital investments?	Yes	No - note differences	Don't know	
F6	What are possible funding approaches for energy projects? Is the financial staff aware of these?				POSSIBILITIES - Energy Service Companies (ESCO) - Utility incentives and rebates - Cheaper to buy capacity with efficiency rather than new equipment - "Ride coat tails" of another project

G. PURCHASING PROCEDURES AND GUIDELINES					
Information sources and key contacts:					
					NOTES
G1	Who makes various energy-related purchasing decisions?	Yes	No	Don't know	Draw an org chart...
G2	Do you have energy efficiency guidelines for routine purchases like lighting?	Yes	No	Don't know	If so, who does life-cycle cost analysis (LCCA)?
G3	Do you have energy efficiency guidelines for the purchase of custom equipment such as chillers?	Yes	No	Don't know	
G4	Do outside service and equipment contracts have efficiency requirements?	Yes	No	Don't know	
G5	Are purchases based on life-cycle cost (total cost of ownership) if they are above a certain level of expenditure?	Yes	No	Don't know	
G6	Are efficiency-related purchasing procedures consistently followed?	Yes	No	Don't know	
H. DESIGN AND CONSTRUCTION					
Information sources and key contacts:					
					NOTES
Which of the following practices does your organization and A&E team use?					
H1	~ The A&E team is required to have experience in "integrated design" for high efficiency	Yes	No	Don't know	
H2	~ There is early and ongoing collaboration among operators, occupants, architects, engineers, etc.	Yes	No	Don't know	
H3	~ There is a designated "integrated design champion"				
H4	~ Energy performance targets are set for each building (e.g., 25% less than code or better)	Yes	No	Don't know	
H5	~ GGHC or LEED used. Which?	Yes	No	Don't know	
H6	~ Life-cycle cost analysis is used for financial evaluation of design alternatives	Yes	No	Don't know	
H7	~ Climate, building orientation, use and systems are integrated to minimize loads				
H8	~ Lighting design has a strong O&M and efficiency focus; daylighting is incorporated	Yes	No	Don't know	
H9	~ HVAC system design has a strong O&M and efficiency focus	Yes	No	Don't know	
H10	~ System interactions are modeled to minimize energy	Yes	No	Don't know	

H11	~ A commissioning agent is hired in the pre-design stage and is involved throughout	Yes	No	Don't know	
H12	~ A post-occupancy assessment is conducted				

I. OPERATION AND MAINTENANCE

Information sources and key contacts:

					NOTES
ENERGY TRACKING					
I1	Do you track energy use and costs?	Yes	No	Don't know	
I2	IF YES >> Which software do you use?	Describe:			
PROBLEM IDENTIFICATION AND RESPONSE					
I3	Do you use Key Performance Indicators to track system performance and identify problems?	Yes	No	Don't know	Documents available?
I4	Do HVAC workstations provide adequate graphics?	Yes	No	Don't know	IF NO: Do you have a binder with that information?
I5	Do staff have clear procedures if energy usage varies significantly from expected targets?	Yes	No	Don't know	IF YES: What?
SYSTEM DOCUMENTATION					
I7	Do you have adequate HVAC control and system drawings?	Yes	No	Don't know	IF NO: Did they exist at one time or were they never provided?
I8	Do you have a reasonably accurate assessment of system capacities, limitations and O&M issues that need attention?	Yes	No	Don't know	Documents available?
I9	What type(s) and brand(s) of control system do you have? How old?	Pneumatic Part DDC Part pneumatic All DDC		Age: Age: Age: Age:	
IN-HOUSE TUNE-UP O&M AND TUNE-UP PRACTICES					
I10	Do you regularly review O&M practices to identify opportunities for improvement?	Yes	No	Don't know	Any improvements you'd like to make?
I11	Do you document O&M activities? What tools do you use? (e.g., a computerized maintenance management system [CMMS])?	Yes	No	Don't know	IF YES: Which CMMS?
I12	Does your facility staff follow specific preventive O&M procedures for major energy equipment?	Yes	No	Don't know	
I13	Do you (or a contractor) perform periodic diagnostics and tune-ups? (calibrate sensors, fine tune control sequences, etc.)?	Yes	No	Don't know	What is done?

CONTRACTOR USE

I13	Which tune-up and O&M functions are handled in-house and which by contractors? Which contractors do you use?	Describe:			
I14	Do contracts require a high level of ongoing operating performance for major energy-using equipment?	Yes	No	Don't know	Trend logs Setpoints Air flows

STAFF TRAINING

I15	Does your organization have a training program on energy management? IF YES >> Describe.	Yes	No	Don't know	
I16	Are any of your O&M staff certified to perform their duties? Building Operator Certified, Boiler, Certified Energy Manager, Professional Engineer, Etc.	Describe:		Don't know	
I17	What staff training is needed to increase skills?	Describe:			

J. TRACKING, REPORTING, STAFF RECOGNITION

Information sources and key contacts:

					NOTES
J1	Do you regularly review the following to track progress? (1) progress in SEM implementation (2) benchmarking (3) energy use (4) costs (5) efficiency project results	Yes Yes Yes Yes Yes	No No No No No	Don't know Don't know Don't know Don't know Don't know	
J2	Is progress reported to (1) Board and executives (CEO, CFO, COO) (2) Directors (facility, purchasing, medical, etc.) (3) O&M staff (4) Other staff (docs, nurses, admin) (5) Internal communications (website, newsletters, etc.) (6) External publications (industry journals, etc.)	Yes Yes Yes Yes Yes Yes	No No No No No No	Don't know Don't know Don't know Don't know Don't know Don't know	
J3	Are staff rewarded or recognized for their contributions?	Yes	No	Don't know	If yes, how?