

# Strategic Energy Management Plan (SEMP)

## For [20XX] to [20XX]

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## Introduction

The purpose of Hospital X's energy management plan and policies is to promote good stewardship of our environment and community resources. In keeping with our core values of Efficiency and Financial Responsibility, Hospital X's energy management program will reduce operating costs and enable us to provide compassionate service to a greater number of persons in the community.

- Utility and energy-related costs are a significant part of overall operating costs
  - Utility costs in 20XX were \$X annually
  - The Hospital's Energy Use Index (EUI) was XXX,XXX Btu/ft<sup>2</sup>
  - Facility-related O&M costs are \$X annually
  - Facility capital project costs are projected at \$X over 5 years
- With energy management an integral part of business decisions, Hospital X can expect the following:
  - XX% reduction in energy use
  - \$XXX,XXX annually to the bottom line (\$X.X million over X years)
  - Energy investments will get a XX% internal rate of return (IRR)
- Recent activity associated with managing these costs include the following. . . [COMPLETE]
- To further strengthen and obtain full value from energy management activities, a strategic approach will be taken: the organization will fully integrate energy management into its business decision making, policies, and operating procedures.
- Active management of energy-related costs and risks in this manner will provide a significant economic return to the organization and will support other key organizational objectives.

## Energy Management Vision

The following are examples that can be changed as appropriate for the user's organization.

VISION EXAMPLE: "We consider our facilities a primary source of giving care, an integral part of the healing environment, and key to this equation is the ability to use our facilities efficiently and effectively." Energy Management Vision, St. Charles Medical Center (Bend, OR)

VISION EXAMPLE: "Kaiser Permanente's mission is to improve the health of the communities we serve. In recognition of the critical linkages between environmental health and public health, it is Kaiser Permanente's desire to limit adverse impacts upon the environment resulting from the siting, design, construction and operation of our health care facilities. We will address the life cycle impacts of facilities through design and construction standards, selection of materials and equipment, and maintenance practices."

## Guiding Principles for Strategic Energy Management

**Hospital/System's energy management will be guided by these principles:**

**Taking a Strategic Approach:** While [Hospital/System] actively manages energy costs by implementing opportunities as they are identified, by acting strategically, Hospital X can significantly improve its energy-related performance. Internalizing energy management into our organization's every-day decision-making, policies, and operating procedures will help assure substantial and long-lasting reductions in energy use throughout Hospital X.

**Supporting Mission-critical Goals:** Strategic energy management will directly support Hospital X's mission-critical goals of caring for the environment and the community; optimizing the healing and working environment; improving the hospital's financial bottom line by reducing unnecessary energy costs; and optimizing the capacity of existing energy systems to meet current and expanding operational needs. The impacts of Hospital X's energy management efforts on those goals will be tracked and reported wherever possible.

**Pursuing Long-term Change to Core Business Practices:** The core of a strategic approach is the consistent incorporation of energy management into our organization's core practices and decision making such as the strategic planning and budgeting processes. Change in energy-related business practice will cover all applications of energy management – new construction and major renovations, existing facility operations and upgrades, and the economic analysis and procurement practices underlying these practices.

**Fostering Organizational Commitment and Involvement:** Executive and organizational commitment and involvement is critical to successful strategic energy management. Top management at Hospital X will work with facility managers and other key staff to ensure that adequate organizational support and resources are provided to maximize the benefits of energy management to Hospital X. Energy management will be integrated into the strategic planning and capital budgeting processes.

**Obtaining Solid Economic Returns:** Energy management investments will yield solid economic returns that meet Hospital X's standard [Internal Rate of Return] [Return on Investment] requirements applied through the hospital's capital budgeting process. Hospital X will apply consistent financial analysis methods that consider life cycle to reduce total cost of facility ownership and operation.

**Using Available Resources and Assistance:** Use national, regional and local sources of strategic, technical and financial assistance to help achieve our energy management goals. These include utilities, the Northwest Energy Efficiency Alliance, Energy Trust of Oregon, Bonneville Power Administration, ENERGY STAR, and state loan and tax credit opportunities.

## The Business Case<sup>3</sup> for Strategic Energy Management

Below are the central business arguments for Hospital X's pursuit of strategic energy management. Section VI then presents the business proposition – the results of analysis of the energy efficiency opportunities and their associated costs and internal rate of return.

## **Strengthened Community Leadership and Environmental Stewardship**

Energy management is a visible, public commitment to the community and environment. Through aggressive energy management, the hospital can provide leadership in promoting sustainable communities, efficient business practices and environmental stewardship. Faced with a tough market environment that has forced cutbacks on hospital support for community activities, this is an excellent opportunity to provide leadership and reduce costs at the same time.

## **Enhanced Healing and Working Environment**

In existing facilities, efficient operating practices improve patient as well as employee comfort with more stable air temperature, and better indoor air quality and lighting. In new facilities more daylight and personal control of comfort contribute to a healing and patient-focused environment and an improved working environment. Research has found that daylight eases surgical pain and contributes to substantial savings in pharmacy costs.

## **Improved Financial Health and Operating Cost Reduction**

Strategic energy management presents a highly leveraged opportunity to reduce operating costs and positively impact Hospital X's bottom line. Dollars of operating cost savings directly improve the operating margin. With Hospital X's current operating margin of 3% [adjust as needed for your hospital] \$1 in margin contribution would take \$33 in revenue. Further, investments in energy projects typically have a lower risk of performance over time relative to other investments, and savings from energy projects are easier to forecast reliably than savings or revenue increases expected from more variable investments.

## **Optimization of Capacity to Meet Current and Expanding Operational Needs**

Energy efficiency optimizes inefficient or poorly designed and operated equipment/systems so wasted energy system capacity can be reclaimed for current and expanding operational needs. This "free capacity" can eliminate the need to add major new energy capacity and be much less expensive.<sup>4</sup>

## **Business Proposition<sup>1</sup>**

- If energy management considerations are integral to relevant business practices, policies, procedures, and decision-making processes, Hospital X's energy-related costs can be reduced by an additional XX% over an X-year period.<sup>5</sup>
- Based on 20XX utility rates, this will result in \$X million/thousand in annual value to the bottom line, or a total \$XX million/thousand over a 5-year period. Integration of energy management into organizational decision making and business practices will continue to produce value annually for a much longer period of time.
- Given Hospital X's current operating margin of X%, Hospital X would have to generate \$X million of gross revenue to achieve the same amount of net dollar benefit.
- To support the achievement of these financial benefits, [Hospital/System] will invest up to \$XX million in energy-related capital and operating improvements,

meeting an Internal Rate of Return (IRR) of XX% or better over the X-year period (20XX-20XX).

- [Describe relevant organizational and business practices changes that will directly support SEMP: use of existing and/or creation of new decision bodies and processes, creation of new staff positions and provision of resources.]

## Energy Management Goals and Objectives<sup>2</sup>

- SEMP Approval, Resources to Implement
- Implement Financial Practices and Decision-making Processes; Establish Funding Resources
- Implement Strategic Energy Management Practices
  - Purchasing/Procurement Procedures and Specifications
  - Enhanced Design & Construction Practices
  - Enhanced Facility Operating Practices
  - Cost-effective Facility Upgrades
  - Active Commodity Management
- Monitoring, Track and Improve Performance

### Goal: SEMP Approval, Resources to Implement

- Executive approval and resources.
- Support from key staff (financial management, purchasing/procurement, construction, building operations, etc.).
- Creation of mechanisms/processes to make resources available.
- Clarification and communication of staff roles and responsibilities, performance goals and energy management reporting.

### Goal: Implement Financial Practices and Decision-making Processes

- Money spent to achieve energy efficiency is viewed as an investment, not a cost.
- Financial decision makers consistently use life-cycle cost analysis (LCCA) on all new construction, major renovations and equipment replacements over \$X.
  - Internal rate of return (IRR) of XX% qualifies for “pre-approval.”
  - Train staff on [name of LCCA tool] and financial requirements and decision-making process.
- Decisions about energy management investments will be part of [Hospital X’s] high-level, long range process of budgeting for capital and operations.

### Goal: Establish Purchasing Specifications for Energy-efficient Equipment

## **and Services**

- Establish and consistently use purchasing specifications that minimize life-cycle costs for energy-efficient equipment and services.
  - Establish efficiency specifications for standard equipment routinely replaced (e.g., lights, motors and unitary HVAC equipment).
  - Establish efficiency guidelines that apply LCCA for custom equipment purchases (e.g., chillers).
  - Establish efficiency standards for design and construction, and for building operations and maintenance services.

## **Goal: Implement Enhanced Design & Construction (D&C) Practices**

- Implement improved new construction practices in all projects over \$X million that specify early team collaboration and “integrated design” (ID).
  - Integrated design<sup>6</sup> required for funding.
  - RFPs, contract terms and conditions and fee structures will support ID.
  - Apply LCCA and financial hurdle rates described above to design decisions.
  - Apply established purchasing procedures and specifications.
  - Include incentives and tax credits wherever available.
  - Educate all owner’s project managers or construction managers and contractors on integrated design and their respective roles in master planning pre-design, design, construction, testing, commissioning and monitoring.
- Set and meet clear energy performance targets for new buildings; measure and improve over time.
  - Establish baseline for measuring performance goals (e.g., code, or national reference standards like ASHRAE 90.1).
  - Set target for each building at XX% [at least 25%] less than code.
  - Measure performance and improve over time.
- Specify commissioning as a standard procedure.
  - Retain the services of an independent third-party commissioning agent.
  - 100% of fundamental building systems and elements will be designed, installed, and calibrated to operate as designed.
  - Design team, commissioning agent, and building operators will work closely throughout the design process and occupancy to ensure good transition.

## **Goal: Improve Building Operating Performance**

- Equipment tune-up and improved operations and maintenance (O&M) will achieve the following results while supporting patient care, and facility comfort and safety.
  - Achieve reductions in operating costs for existing facilities by an average of X%

over X years and continue to improve by X% per year for X years thereafter.

- Reduce the system-wide EUI from XXX,XXX Btu/ft<sup>2</sup> to XXX,XXX Btu/ft<sup>2</sup> by 20XX. The EUI will be normalized for weather and other variables.
- Reduce energy consumption by XX kWh per year equivalent to yearly savings of \$X at 20XX rates.
- Improve ENERGY STAR rating from XX to XX over X years.

**Goal: Implement Cost-effective Facility Upgrades**

- Implement equipment and system upgrades where justified by life-cycle cost analysis.
- Expand use of qualified service providers as needed. Develop standard RFP documents, contract terms and reporting standards.

**Goal: Actively Manage Energy Commodity**

- Minimize utility costs and exposure to market risks. Utility costs include natural gas, electricity, water and sewer.
- Participate in the energy/utility regulatory process.

**Goal: Monitor, Track and Reward Progress**

- Track progress on SEMP.
- Track energy reductions [quarterly][annually].
- Reward staff for successes.