



Energy Management Policy & Plan

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What is Energy Management?

- “Energy management is the proactive, organized and systematic coordination of ***procurement, conversion, distribution and use*** of energy to meet the requirements, taking into account environmental and economic objectives”

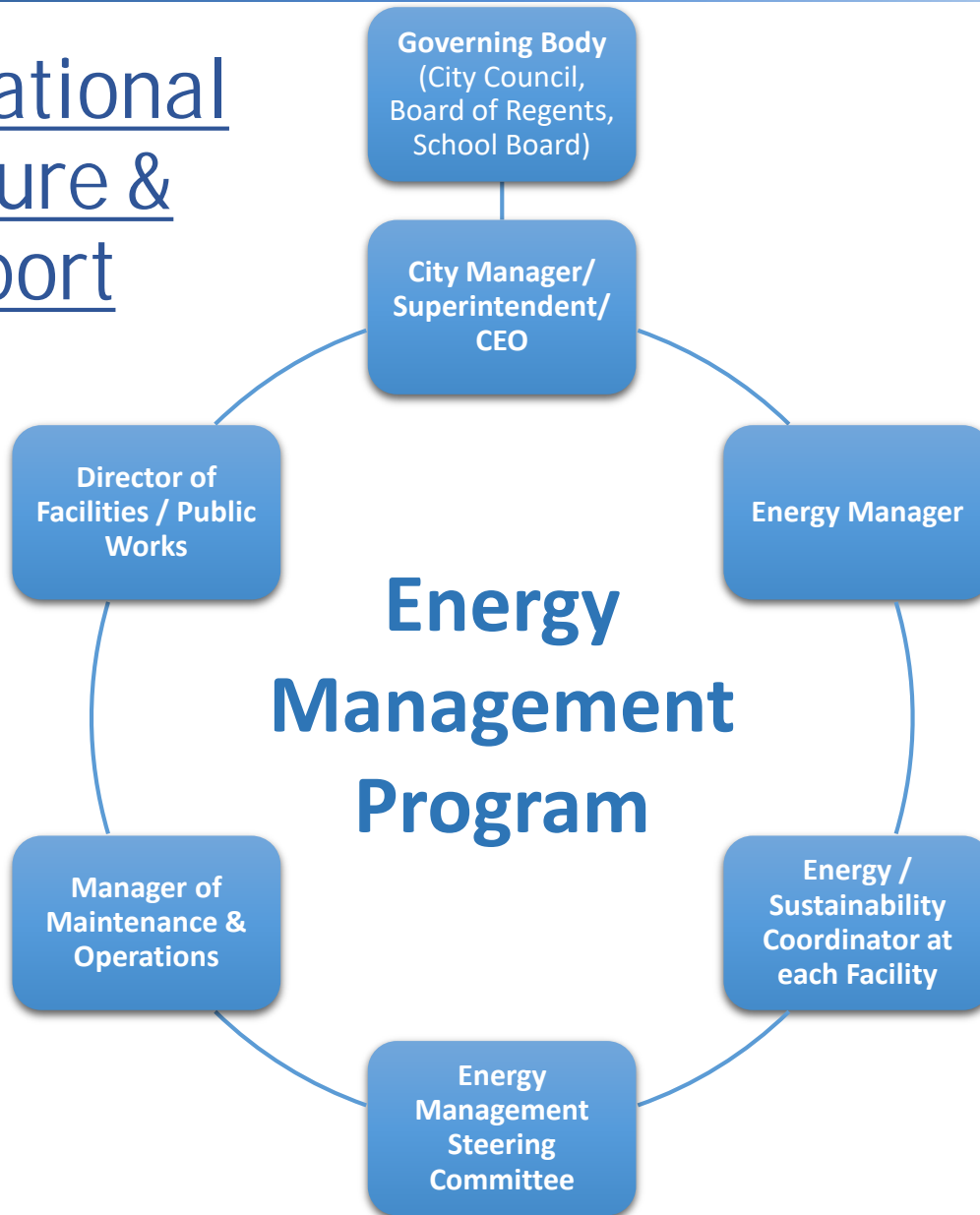
Why?

- Why do we need energy plans and energy management policies?
 - Energy management plans and policies are effective strategies to influence day-to-day operations and behavioral practices
 - Low cost to implement
 - Can yield appreciable energy and maintenance cost savings
 - Occupant satisfaction
 - Integration into sustainability plan

Challenges

- Organization structure and top management support
- Training and awareness
- Staffing resources, shrinking budgets
- Capital required for energy efficiency building upgrades
- Failing equipment or poor equipment performance
- Occupant satisfaction & support (at all levels)
- Establishing a baselines for tracking
- Development & adoption of policy and plans

Organizational Structure & Support



Energy Policy and Plan Distinction



Energy Management *Policy*

VS.



Energy Management *Plan*

- Adoption Strategy
 - Varies
 - Recommend two step process
 - Policy
 - Plan

Energy Management Policy

- Authoritative document establishing the vision, intent and goals of the Energy Management (EM) program
 - Usually 1-2-page document
 - Includes the general responsibilities and roles of different departments relating to Energy Management
 - Establishes overall goals and objectives

Energy Management Plan

- Document detailing how the energy goals will be achieved
 - Establish goals, equipment parameters and usage, facility operation, temperature setpoints, O&M procedures, new construction, etc.
- Further details the responsibilities and roles of different departments
 - Energy Management Steering Committee, Energy Management Department, etc.
- “Sustainability Plan” includes water management, recycling, alternative energy, carbon footprint, etc.

Energy Management Plan Outline

- i. **Mission Statement**
- ii. **Statement of Concerns**
- iii. **Commitment to Implementation of Program**
- iv. **Energy Management Steering Committee**

Energy Management Plan Outline (cont.)

- v. Promotion of Energy Management
- vi. Energy Management Department Role**
- vii. Acceptable Equipment Operating Parameters**
 - Handling of comfort issue
- viii. Equipment Usage and Requirements

Energy Management Plan Outline (cont.)

- ix. Lighting Energy Conservation
- x. After Hours Event Approval Process
- xi. Maintenance and Operation (M&O) for Buildings and Equipment
- xii. Public Awareness / Outreach**

Energy Management Plan Outline (cont.)

xiii. New Building and Construction

xiv. Alternative Energy Sources

xv. Establish a Water Management Program

xvi. Integration into Sustainability Planning

Energy Management Plan Specifics

➤ Mission Statement

- To be implemented within each of the facilities and/or campuses; will produce a safe and productive environment for occupants, while simultaneously providing prudent management of financial and energy resources.

➤ Statement of Concerns

- The [City/County/District] is concerned with current and projected energy costs and power requirements due to current population growth patterns within the area.
- It is within the best interest of the [City/County/District] to conserve energy and natural resources.

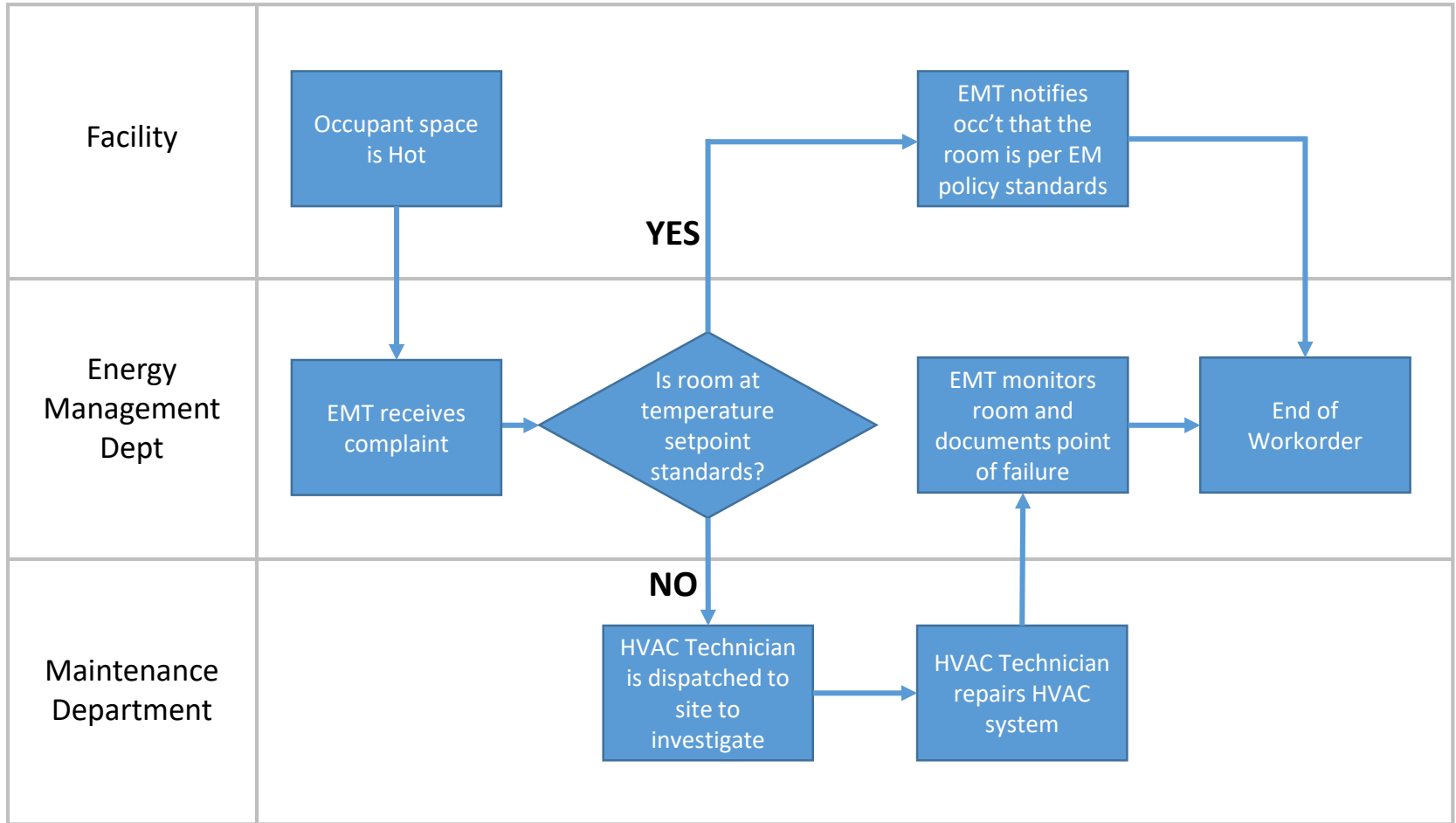
Energy Management Department Roles

- Develop comprehensive program for energy efficient op's
- Responsible for implementation, operations, and enforcement
- Establish routine energy tracking
- Evaluate energy rates and utility provider proposals
- Routinely review efficiency improvements; recommend new technologies, more efficient equipment, systems and operating techniques
- Work with other departments to develop efficient practices
- Annually review and revise the standard practices
- Energy purchase, systems purchasing, education, reporting

Acceptable Equipment Parameters

- Establish uniform temperature set points for all spaces
 - Occupied/unoccupied
- Monitor and ensure other building parameters (humidity levels, CO₂, etc.) are within acceptable limits
- Start/stop times will be adjusted seasonally to avoid unnecessary runtimes
- Holiday shut downs
- Procedure for handling comfort complaint

Typical Daily Workorder Scenario (handling of comfort issue)



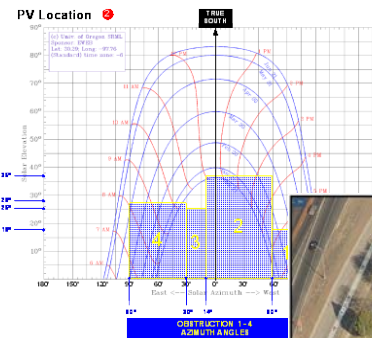
Public Awareness

- All staff, occupants should be aware of utility management efforts
 - Signage to turn off lights, etc.
- Provide feedback on energy and \$ saved
 - Posters, emails, newsletters
 - ENERGY STAR Certifications
 - Possible incentives

Alternative Energy Sources

- Pursue cost effective applications of alternative energy sources including, but not limited to, PV Solar Arrays, Solar Water Reheat, and alternative fuels

Wind Generation



Solar PV



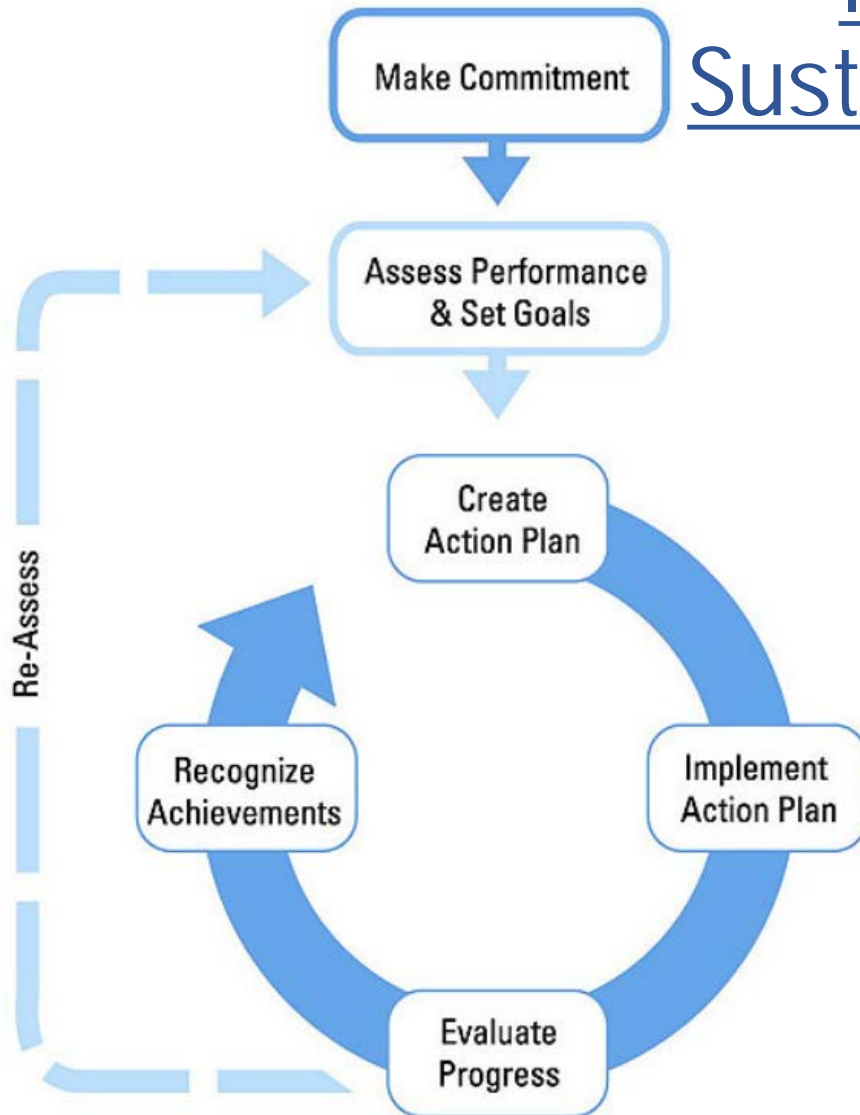
Solar Thermal Pool Heating

Water Management Program

Establish a program to reduce water consumption. The following conservation measures should be employed:

- Investigate the use of water conserving faucets, showerheads, and toilets in all new and existing facilities.
- Utilize water-pervious materials such as gravel, crushed stone, open paving blocks or pervious paving blocks for walkways and patios to minimize runoff and increase infiltration.
- Employ Xeriscaping, using native plants that are well suited to the local climate, that are drought-tolerant and do not require supplemental irrigation.
- Utilize drip irrigation systems for watering plants in beds and gardens.
- Install controls to prevent irrigation when the soil is wet from rainfall.
- Establish a routine check of water consuming equipment for leaks and repair equipment immediately

Integration into Sustainability Planning



- STEP 1 – Make a Commitment to Sustainability
- STEP 2 – Assess Performance and Set Goals
- STEP 3 – Create Action Plan
- STEP 4 – Implement Action Plan
- STEP 5 – Evaluate Progress and Re-Assess
- STEP 6 – Recognize Achievements
- **Roadmap to sustainability through Energy Management**

Recap and Summary

- Energy plans can help realize increased cost savings potential in conjunction with Energy Efficiency projects
- Awareness and behavioral practices have minimal upfront cost with appreciable impacts on conservation efforts
- The success of the program is dependent upon total cooperation from every level within the system; from the top down

Questions?

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