

Environmental Advisory Commission Recommendation to Town Council on the Energy Conservation and Management Plan and the Position of an Energy Manager

Over the past two years, the Environmental Advisory Commission (EAC) has been working with the Town government to develop an Energy Conservation and Management Plan (see Annex 1 for the latest draft). Town staff provided comments on the most recent draft in late 2021, indicating they like the Plan, but do not have the staff resources to implement and maintain it.

The EAC recommends the Town of Leesburg obtain an Energy Manager to lead the implementation of the Energy Conservation and Management Plan. Most organizations that are the size of the Leesburg government have a staff member that is responsible for energy management. Energy management is the process of tracking and optimizing energy consumption to conserve energy use. Energy management includes:

1. Collecting and analyzing data,
2. Identifying significant energy using systems and setting benchmarks, and
3. Improving the performance of these systems through behavioral, operational, maintenance, and capital improvement projects.

Given Leesburg's size, this would likely not require a full-time position. Energy manager positions are often combined with health, safety, environmental, water, facility management, or sustainability responsibilities. For an organization like the government of Leesburg, the energy manager would typically lead an informal energy team, with representatives from leadership, maintenance, procurement, operations, and other divisions as needed. The energy management responsibilities would likely take one-quarter to one-half of a full-time equivalent job.

Organizations that make energy management a priority typically improve their energy performance and savings by 3-6 percent per year. Often times, this is primarily through no- or low-cost energy conservation measures.

The current Energy Conservation and Management Plan would work well with this energy manager position. The Energy Manager would be responsible for implementing and then maintaining the plan. Right now, it does not appear the Town has a staff member with the needed knowledge, skills, and abilities (see Annex 2).

The Environmental Advisory Committee is recommending the Town Council instruct the Town Manager to hire, train, or subcontract a person to be the Town of Leesburg's Energy Manager, and then implement the Energy Conservation and Management plan.

Town of Leesburg

Energy Management and Conservation Policy

Purpose

This policy is intended to support the conservation of energy by the Town government in its facilities, vehicles, and annual operations, and confirm the Town's commitment to environmental stewardship. Guidelines are provided in this policy regarding practices aimed at lowering energy consumption, as well as procurement and effective use of energy-consuming equipment.

Through implementation of this policy, the Town should realize a positive environmental impact and cost savings on energy bills.

Applicability

This policy applies to Town of Leesburg local government facilities, vehicles, and employees.

Authority

This policy is provided under the authority of the Town Manager's Office.

Scope

A. Heating, Ventilation, and Air Conditioning

1. Building heating and cooling will be adjusted and monitored to ensure comfort of occupants while minimizing energy demands as much as practical.
2. Heating and cooling temperatures will be set back during unoccupied building hours to reduce energy demands to the extent possible without compromising building comfort.
3. Building occupants and staff are requested to keep windows and outside doors closed while the air conditioning and heating are on and where sufficient fresh air flow can be provided by the HVAC equipment.
4. Personal space heaters shall be limited wherever possible except where necessary to ensure comfort in poorly heated parts of buildings.
5. Poorly heated and cooled locations in Town buildings will be evaluated to identify any cost-effective improvements or modifications that can maximize efficiency.
6. Timers will be installed on water heaters where practical and cost effective to ensure they are turned down when not in use. Heat traps and insulation may be installed on hot water heaters, as feasible, in order to conserve energy.
7. When and where replacement equipment is needed, equipment will be purchased that meets the current ENERGY STAR[®] rating requirements, as allowable.

B. Lighting

1. Lights are to be turned off in unused areas, with the exception of emergency lighting.
2. Employees will be encouraged to turn off all lights off when leaving the office.

3. Custodial staff will turn off lights in the building after cleaning is completed each afternoon/evening. Light bulbs and/or fixtures will be converted to LED where possible when replacements are needed, or if economical, prior to when a replacement is needed.
4. Automatic light sensors will be installed when practical, when funding is available and where logistically feasible, and considered for use in all construction and renovation projects.

C. Electronic Equipment

1. Minimize energy consumption of computers, printers, and copiers by ensuring that they are set to go into energy savings modes when and where feasible.
2. Ensure that computer monitors turn off or go into power saving modes when not in use.
3. During work hours, all capable PCs should be programmed for an optimized balance of performance and energy saving.

D. Building Envelope

1. Window, door, roofing, and other insulation materials will be periodically visually inspected for damage by the Building Maintenance Division (or certified consultant if funding is available) in order to evaluate any need for repairs or replacement.
2. Periodically evaluate new building technologies and improvements such as insulation or window coatings that can be used to cost-effectively lower energy consumption.

E. Vehicles

1. Fuel-efficiency will be considered when purchasing cars, trucks, and other equipment.
2. Electric-based vehicles will be reviewed when new vehicles are purchased where such vehicles are practical for use, when infrastructure becomes available to make their use feasible and once funding for training, tools and maintenance equipment are made available to the Fleet Maintenance Division so these types of vehicles and equipment can be properly maintained.

F. EV Charging Stations

1. Periodically, the Town will consider installing EV charging stations, for both employee and general use.

G. Procurement

1. To the extent legally permissible, products carrying the ENERGY STAR® label (e.g., appliances, electronic equipment, HVAC equipment, roofing, etc.) shall be given procurement preference.
2. If ENERGYSTAR® labeled products are not available, the purchase of energy efficient equipment should be pursued.

H. New Construction

1. Any new construction will be considered for LEED for Building Design and Construction certification when practical and when funding for such certification is made available.

I. Renewable Electricity

1. Periodically, the Town will consider the procurement of renewable electricity instead of the standard grid offering.

J. Periodic Internal Energy Efficiency Audits

1. To ensure this policy is successfully implemented, and when funding permits, an internal energy efficiency audit will be conducted periodically by an energy consultant.
2. As part of these audits, the Town and consultant will meet with the account representative from the electric and natural gas companies that supply the Town to see if any incentive programs are available.
3. Audits will cover all sections of this policy, and all Town-owned facilities and vehicles.
4. Audit results will be documented and retained by the Town Manager's Office.
5. Audit findings will be reviewed by the Town's Management Team and implementation of any changes will be considered pending practicality and funding.

K. Goal for Improving Energy Performance

1. The Town will set a goal for improving energy performance, including electricity, natural gas, and fuels used for vehicles. The Town will set an annual percent improvement goal, and/or a longer-term goal. Consumption should be monitored on a monthly basis and normalized to account for factors such as weather.

L. Annual Report

1. At the end of each fiscal year, Town Staff will prepare an annual report to describe energy usage, energy efficiency improvements that were made, new energy savings initiatives, and list accomplishments in energy savings. The report will address the policies above and describe efforts made to limit energy usage as it relates to each policy. The annual energy consumption numbers and performance improvement values will be calculated in this report.

Knowledge, Skills, and Abilities for an Energy Manager and needed to Implement and Maintain the Town of Leesburg's Energy Conservation Policy

Energy Bills

- Ability to read and understand energy bills
- Ability to understand different utility rate schedules

Energy Using Equipment

- Knowledge of energy use, operation, and maintenance practices for the following equipment
 - HVAC
 - Lighting and lighting controls
 - Electronic equipment
 - Building envelope
 - Vehicles and EV charging stations
 - New building construction
 - On-site renewable electricity generation
- Knowledge of commissioning of major equipment related to energy efficiency

Facilities/Buildings

- Knowledge of energy related codes and standards
- Knowledge of commissioning of new or retrofit buildings related to energy efficiency

Procurement

- Knowledge of how to work with procurement department to set guidelines for acquiring energy efficient equipment
- Life cycle cost method knowledge
- Knowledge of financing

Energy Assessments

- Knowledge of how to conduct (or contract out) an energy assessment/audit
- Ability to work with external utility staff on utility-provided incentives, rebates, etc.
- Ability to develop and implement energy savings projects and strategies (or contract out)

Energy Use Tracking

- Knowledge of how to track energy consumption (or contract out), including greenhouse gas emissions

Energy Use Reporting

- Knowledge on how to report energy use and greenhouse gas emissions, including normalization for external factors such as weather (or contract out)
- Ability to help the Town of Leesburg meet their energy performance improvement goal

Managing a Consult Contract

- Knowledge of how to engage a consultant to performance energy assessments, energy tracking, and energy reporting
- Knowledge of Energy Performance Contracting practices

Managing an Informal Energy Team

- Ability to lead an energy team with members from management, maintenance, operations, procurement, and sustainability