

Energy Efficiency & Conservation Practices

Sustainability Programs Manager and Director of Facilities & Construction July 26th 2023

How to Reduce Energy Use



- Facilities and Construction Services plans, programs, and budgets facilities improvements based on operations and facility requirements. Energy reduction and sustainable design are considered on every project. Here are some examples:
- Modernization:
 - Lighting upgrades
 - **OHVAC** replacements
 - Insulation
 - Investing in energy-efficient appliances
- Energy Conservation:
 - Lighting timers
 - Unplugging unused equipment
 - Shut-down of electronics

Interior Lighting Controls



- Time-based controls
 - Central Permit Facility
 - Court Tower
 - Admin Tower
 - Multi-Dept Storage Facility
- Motion sensor systems
 - Secure areas of Admin Tower
 - Secure areas of Court Tower

- Occupancy timers
 - Depke Courthouse
 - Coroners' Office
 - Public Defender
 - Adult Probation
 - Portions of 18 N County Complex
 - **OBranch Courthouses**

Exterior Lighting Controls



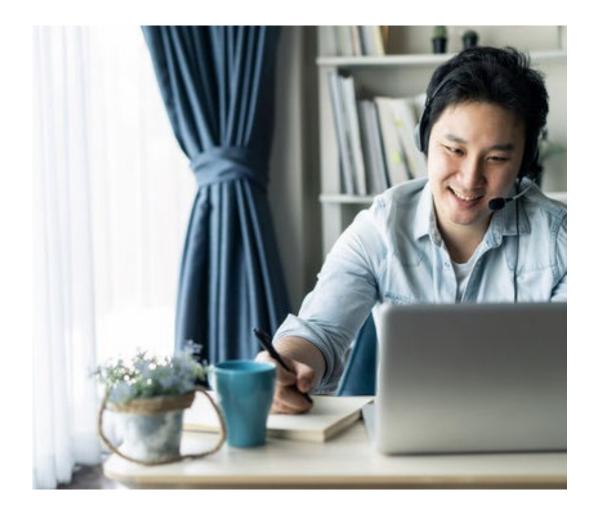
- Time-based dimming lights
 - Jail parking lot
 - Jail exterior wall lights
- Daylight sensors
 - All other parking lots
 - All other exterior wall lights



Remote Work and Meetings



- Several departments allow employees to work remotely between 1-3 days per week.
- By allowing remote work, energy previously used in office equipment is now saved.



Green Roof Maintenance



- Weeding, pest management, and watering the native plans on the Central Permit Facility is undertaken throughout the year.
- A green roof's energy savings can only be realized with maintained greenery.
- Special employee events and volunteerism is a Lake County practice for upkeep.



Energy Audits



- An energy audit is an inspection survey and an analysis of energy flows for energy conservation in a building.
- Includes third-party recommendations for what to upgrade or change for increased efficiency.
- Lake County facilities receive audits for efficiency for free and are regular tools utilized during budget prioritization season.

Older Facilities



 Lighting in the older buildings (Center Courts, Jail, Depke Juvenile Detention) do not have the ability to be programmed so must be manually turned off when not in use.



Potential Energy/Sustainability Projects



Sustainability:

- Replace Detention grade fluorescent light fixture with LED's
- Install VFD motors and DDC programming for Lab exhaust fans
- Exterior LED Lighting for Sheriff's Training Facility, Branch Court Houses, and CPF
- Replacing facets, shower heads and spigots to reduce water usage

Modernization:

- Remove South Entrance Revolving Doors, fix broken windows and replace 1967 single pane windows on 1st FL
- Replace control panel and integrate into DDC system for remote scheduling, alarming and monitoring (including graphics)

Future Planning



- The Roadmap to Decarbonization will include these practices as strategies for reaching Lake County's net-zero goals
- The combined effect of these practices could save thousands of dollars and MTCO2e
- "Energy efficiency represents more than 40% of the emissions abatement needed by 2040" - International Energy Agency





Questions