



# **Energy Efficiency & Conservation Practices**

**Sustainability Programs Manager and  
Director of Facilities & Construction**

**July 26<sup>th</sup> 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
  - HVAC 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
  - Branch 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 plants 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 MTCO<sub>2</sub>e
- “Energy efficiency represents more than 40% of the emissions abatement needed by 2040” - International Energy Agency





**Questions**