

# **City of Cookeville and Cummins Filtration**

## **Energy Efficiency Partnership**



# Cummins Mission



Demanding that everything we do leads to a cleaner, healthier, safer environment  
Empowering people to become owners working together

☀️ **9,000 tons of CO2 emissions saved as a result of the  
Cummins Unplugged Challenge  
between 2008 and 2010**

## **City of Cookeville Energy Efficiency Objectives:**

To introduce energy efficiency activities to employees and begin to establish the City as a leader in making our community cleaner and healthier.

To address all 'no cost/low cost' energy saving opportunities through 'Unplugged Challenges' on holidays AND those that can be done everyday.





## **Services provided by Cummins Filtration:**

- 1) Train City of Cookeville Energy Champions**
- 2) Develop City of Cookeville Department Energy Hunts-Unplugged Challenges**
- 3) Provide training resources and materials**
- 4) Develop a comprehensive 3-5 year plan to expand the program beyond the City of Cookeville facilities to the community**

## **Cost:**

**City of Cookeville – man hours in training and use of facility for training**

## **Benefit:**

**City of Cookeville – reduction in energy costs and green house gas emissions.**



## The “Unplugged Challenge” concept is simple...

- All departments/facilities have a shut-down period (i.e. holidays, weekends.)
- The fixed or "at rest" energy state may be significantly lowered by aggressive facility system "power-down" actions coupled with many conservation steps that every employee can take led by their Energy Leader.
- Although the idea is simple, the implementation requires planning and engagement from several key groups: leadership, facilities staff, environmental management teams, operations leaders, and the great collective of City of Cookeville employees.



## **Why we want to reduce energy usage...**

- 1) The City of Cookeville budgets at least 1.8 million a year to cover all general department electric costs.**
- 2) The City spends between 90-95K a month providing power, water, sewer, and heat to buildings, powering street lights, traffic signals, and general facilities.**
- 3) City Hall alone spent \$67,816.78 in the last calendar year on just electric (No Gas, Water, or Sewer).**
- 4) Reducing costs frees up funds for employee wages, benefits, and insurance programs.**
- 5) It takes about 1 pound of coal to produce 1000 watts of energy. In October, City Hall alone required 33.5 tons of coal be burned to power the building.**
- 6) IT'S THE RIGHT THING TO DO!**



# Next Steps:



- 1) Identify Energy Champion – one for the City**
- 2) Identify Energy Leaders – one per department / facility**
- 3) Baseline data for each facility over Thanksgiving**
- 4) “Unplugged” communication plan for Christmas (mid November)**

# What is an Energy Leader?



- **Department or Facility Team Member**
- **Energy Leaders is selected / chartered by the City's Department Director or City Manager**
- **One Energy Leader for each Department (minimum)**
- **Energy Leader trained on Energy Efficiency and sustainability**
- **Energy Leader empowered to lead low / no cost local projects and “power down” concept**

# Training Module Topics



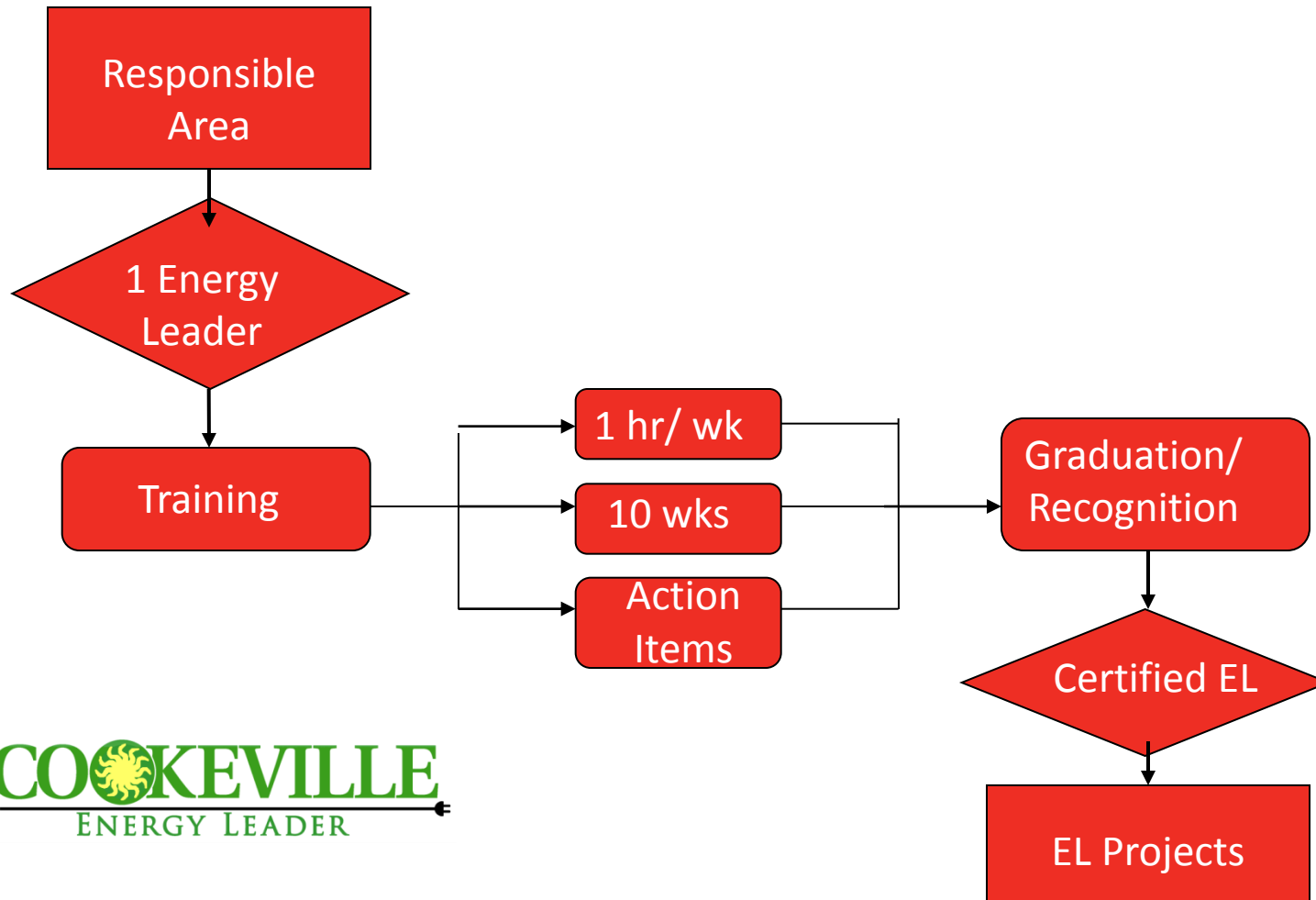
- Week 1 – Kick Off
  - Ice breaker activity - Q&A - Kill a Watt assignment
  - Top objectives: Orientation, Goals, What's in it for me?
- Week 2 - Energy and the Environment
  - Top objectives: GHG impact, Roles EL
- Week 3 Energy Basics
  - Top objectives, What is energy?, Costs of energy.
- Week 4 – Power Management
  - Top objectives: GHG calculator, make energy visible
- Week 5 – Machinery and Equipment
  - Top objectives: Know biggest energy use in area, est. costs



## Module Topics

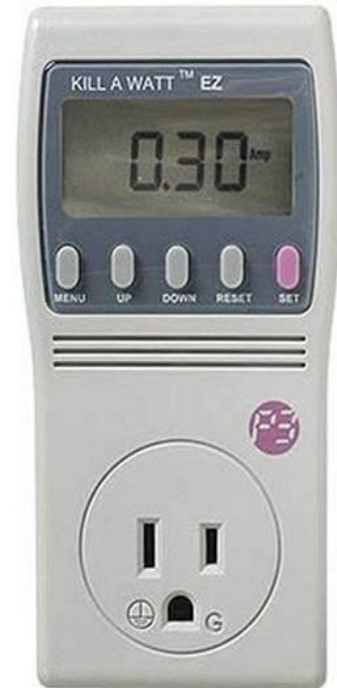
- Week 6 – Lighting
  - Top objectives: Types of lighting, operating costs
- Week 7 – Building Envelope
  - Top objectives: Understanding impacts of building envelope.
- Week 8 – Heating and Cooling
  - Top objectives, Awareness of HVAC, effective fan use
- Week 9 – Fuel Use and Energy Recovery
  - Top objectives: Identify heat recovery opportunities
- Week 10 – Improving Operations
  - Top objectives: Conduct treasure hunt, air hunts

# Energy Leader Training Flow



# What's in it for me?

- Training can be applied at work and at home to save on personal utility bills.
- Energy Leader shirt
- 1 hour lunch and training
- New energy efficiency resources for your work and home weekly
- “Kill A Watt” meters for use at work and home





# Outcomes thus far:

- City of Cookeville saved approximately \$750 during Christmas Holiday “Unplugged Challenge”.
- We now conduct shut-down procedures each weekend and will continue “Unplugged Challenges” each holiday
- Water Department will save over \$4000/yr due to identifying a basement water testing room with 6-400 watt bulb fixtures that were being left on 24 / 7 / 365. Those lights now remain off unless room is occupied.
- Electric Department will save over \$700/yr by now turning off lights in 2 truck bays that were staying on constantly.
- TVA is currently engineering City Hall for HVAC recommendations for WHEN our over 50 year old system fails.
- Will graduate first 22 Energy Leaders in 3 weeks!!

