



# Facilities Overview

Clint Shepherd, General Services Manager

# Facilities Portfolio Overview

- **84** facilities controlled by Buncombe County
- Total Area – 1.71 million SF  
(About 30 football fields!)
- 2016 Utility Cost - \$1.87 million
- Average Utility Cost per SF - \$1.10



## 9 Measures — at a glance

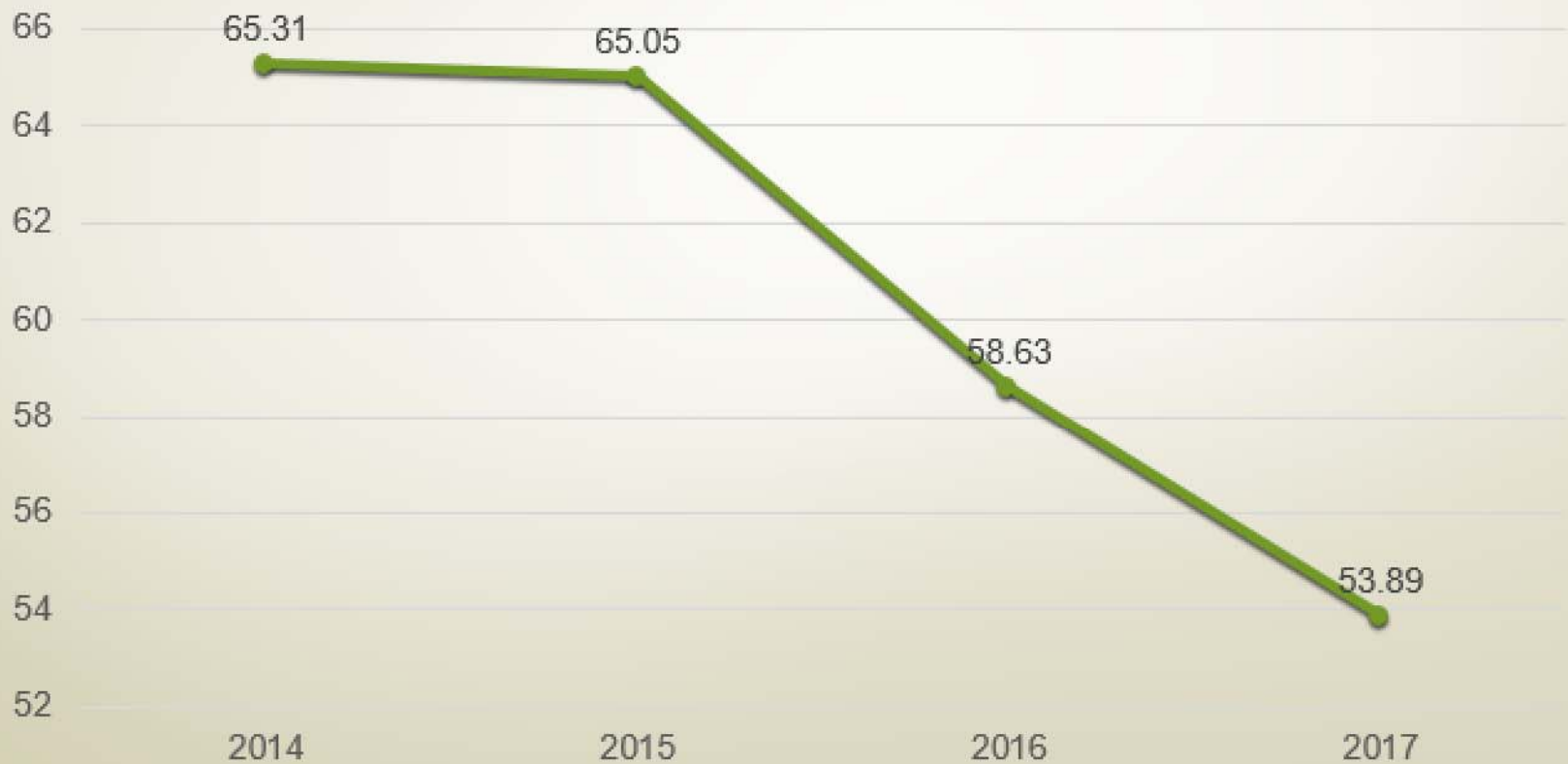
<b>ECRM</b>	<b>ECRM Name</b>	<b>% CO<sub>2</sub>e Reduction</b>	<b>Payback Period</b>
3	De-lamp Fixtures	.13	2.5
5	Thermostat Programming	.77	1.5
6	Thermostat Additions	.81	3.8
8	Utilize outside air	.42	3.3
9	HVAC adjustments	1.06	1.0
12	Vending Machine Controls	.04	1.7
13	Computer Controls	.68	2.7
22	Efficient Clothes Washers	.03	3.0
26	Solar heating system tune-up	.02	2.0
<b>Total</b>		<b>4%</b>	<b>2.5 Years</b>

# Energy Intensity – kBTU/sq. ft.

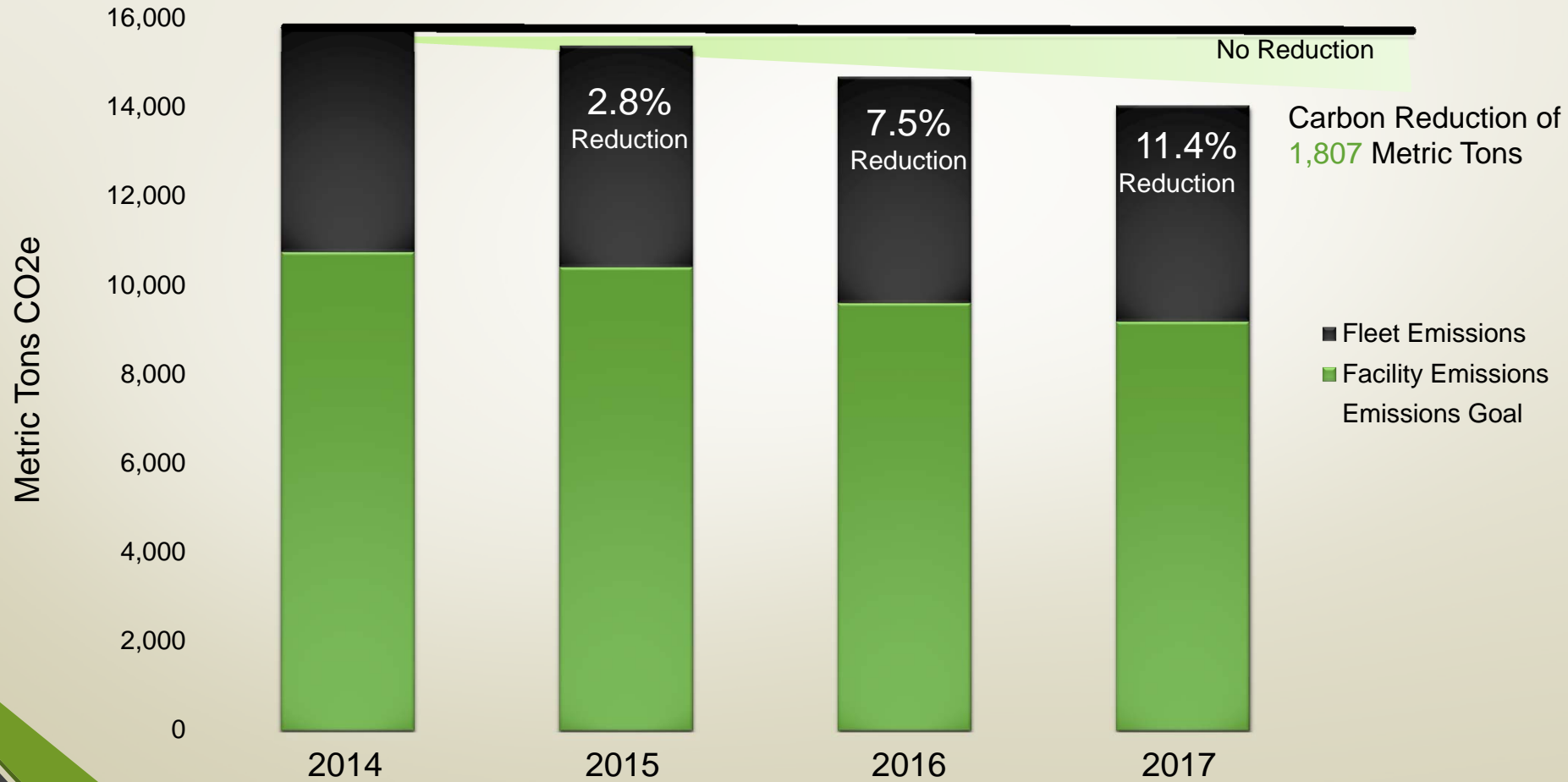
For Reference

**Energy Intensity:** measure of energy used for an area

**kBTU:** a standard unit used to measure energy



# Emissions Reduction to Date



# Energy Conservation Measures for FY18

## 1. Exterior Lighting – LED Retrofits

- Detention Center
- Courthouse
- Erwin Pool
- Leicester Library
- Fairview Library
- 356 Biltmore Av

Total annual reduction of 70,500 KWh

Cost: \$19,200 – Annual savings of \$4,200

Simple payback of 4.5 years

## 2. Energy Efficient HVAC units (TBD)

# School Systems Update



**Asheville City Schools**  
PO Box 7347 • 85 Mountain Street  
Asheville, North Carolina 28802

Learn. Discover. Thrive

- ACS is replacing 3,840 florescent fixtures with LED retro fit kits; focusing on recessed fixtures in drop ceilings.
- Four schools and the central office have been completed, with Claxton Elementary scheduled for replacement in December.
- The project will be 44% by the end of the year
- The final two schools, AHS and Hall Fletcher make up the remaining 56%.
- ACS plans to have the two remaining schools finished in Spring 2018.





## BUNCOMBE COUNTY SCHOOLS ENERGY MANAGEMENT

### Districtwide LED Initiative

- Funding: Article 39, Lottery Funds, Article 40/42
- Complete: Erwin District, Maintenance Building, Administrative Services Building
- 13 buildings; approximately 12,000 fixtures
- Fall 2017: Roberson District
  - November 2017 - June 2018
  - 6 schools; approximately 8,000 fixtures
- Spring/Summer 2018
  - June 2018 – Fall 2018
  - 6 schools; approximately 8,100 fixtures

**Results so far: \$122K avoided costs;**

**1M Kilowatt Hours Saved!**







## **BUNCOMBE COUNTY SCHOOLS** **ENERGY MANAGEMENT**

### **HVAC Equipment Replacement**

- Avery's Creek Elementary: Carrier high-efficiency air-cooled chiller
- North Buncombe High School: Receiving a new high-efficiency chiller
- West Buncombe Elementary: Receiving an entire HVAC system upgrade
- Administrative Services: Receiving an original boiler, switchgear, and generator

### **Energy Efficiency Projects**

- Erwin High School: Solar Hot Water to be installed
- Reynolds High School: Solar hot water system to be installed
- Valley Springs Middle School Auditorium LED Retrofit
- Leicester Elementary Media Center LED Retrofit
- Weaverville Elementary Media Center LED Retrofit



## BUNCOMBE COUNTY SCHOOLS ENERGY MANAGEMENT

### Other Energy Conservation Activities

- Districtwide energy conservation awareness
  - Presentations to school classes, board, principals
  - Energy assessments with students
  - Outreach via social media and BCS communications
- Utility rate analysis and bill auditing
- Purchase and install wifi thermostats for modular units to more tightly and easily control changes to setpoints and occupied/unoccupied times
- Demand utilization
- Create and advertise 'Energy Dashboard' via SchoolDude's Energy Manager for use as an educational energy tool in schools
- Review individual mobile unit uses and assess avenues for costs savings with HVAC schedules, utility rates, or cutting off power completely
- HVAC equipment inventoring for better future long-range replacement planning
- Energy Star ( *qualification only* )
- Update Board Policy 560 (Energy Conservation) - Policy has not been updated since 2004



**BUNCOMBE  
COUNTY**  
NORTH CAROLINA  
GOVERNMENT

## Office of Sustainability

- The Office of Sustainability serves as a resource and an advocate for environmental sustainability at Buncombe County.
- Its mission is to foster a culture of sustainability throughout the County's operations and to support sustainability initiatives and actions within the County and in the community.

# County Facilities

- Goal 1: Stay out of Clint's way!
- Work with General Services to suggest possible EE retrofits/renewable energy options
- Handle the application process for Duke Energy rebates/incentives
  - Approximately \$12,000 in FY18
  - Does not include built-in rebates
- Renewed Use of the Energy Savings Reinvestment Fund
  - Approximately \$27,000 in FY18
  - Anticipated to be approximately \$40,000 in FY19



# Community Clean Energy

How do we start? By gathering the data:  
Energy Audits of public/community  
facilities

- **County Fire Departments**
  - 20 Districts and a few substations
  - 260,000+ sq ft combined
  - WRP began audits in August and will run through the first quarter of 2018



# Community Funding Partners

We are working with a number of our community funding agencies to conduct energy audits of their facilities

- YWCA
- Sandy Mush Community Center
- Pisgah Legal
- YMI
- ABCCM

Upon completion of the audits the goal will be to evaluate and prioritize potential ECMs, leverage all available resources (Duke incentives, etc.) and package them into work orders and/or RFPs to put out to bid if necessary



# Residential

## Mountain Housing Opportunities

- Audits of their older complexes
- Sign up for Duke DSM programs at time of lease



# Residential, Cont.

## Energy Savers Network

- Low-income residential energy efficiency
- Focus on weatherization (air sealing, insulation, minor repairs)
- Participants identified through WAP funds and other community partners
- Cost Effective (\$300 per home)

## SE Sustainable Community Fund (\$300K)

- Competitive grant opportunity - Focus on equity and inclusion
- One-stop-shop for energy efficiency (Single entry point)
- Proof-of –concept for retrofits; potential Duke buy-back program





# Business Engagement

Identified a lack of market penetration for Duke's existing programs

- SBES
- Technical Assistance
- Energy Wise for Business

Designing a series of Community Forums targeting area business sectors (Hotels, Breweries, Restaurants, etc.)

- Cut through red tape
- Program managers on site
- Sign up and schedule appointments
- Pilot group are businesses signed up for the Asheville Workplace Challenge

Lunch 'n Learn on Ways to Save \$  
Save Energy and Save Money with Duke Energy



Join us on December 5 from 11:30 p.m. to 1:30 p.m. at the Asheville Chamber of Commerce for a free and fun event! This lunch n' learn provides Asheville area businesses that

December 2017

05

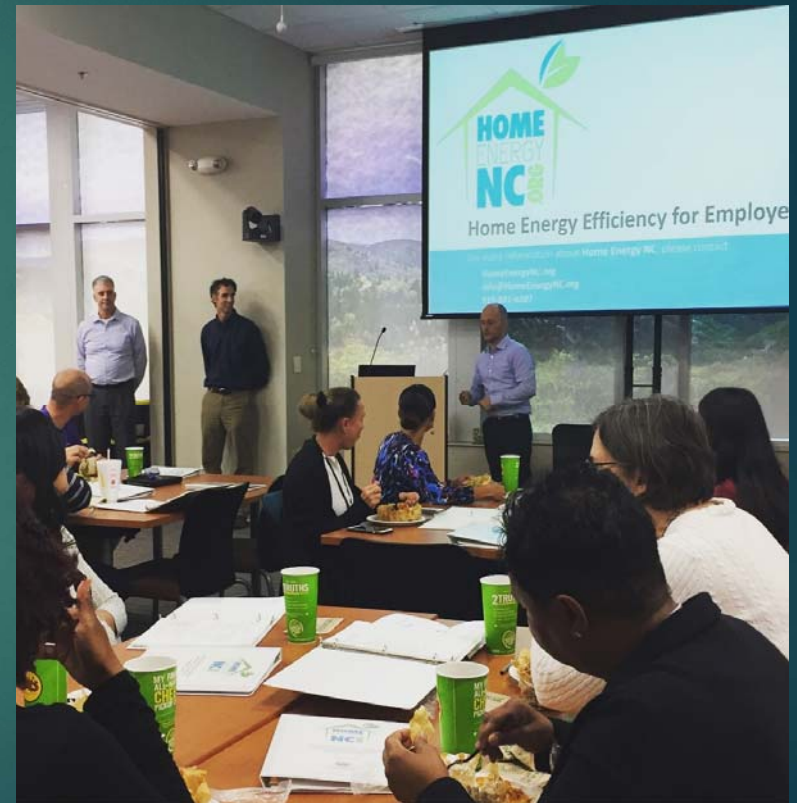
# County Employees

## Provided a Home Energy Efficiency Workshop for County Employees

- Food and door prizes
- Over 60 employees signed up
- We received great feedback!

## Incentives for Duke DSM program signup

- Similar to Healthy Hours program
- EnergyWise Home
- Home Energy House Call



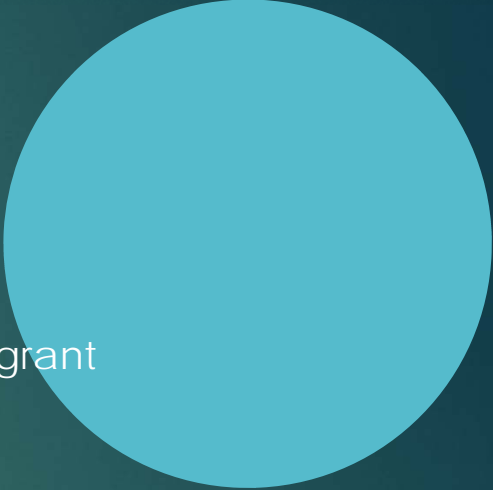
# What Are We Spending?



Community Clean Energy Fund:

Initial investment of \$350,000

## Costs to date:

- **\$53,000** - Energy Audits for fire depts./community facilities
  - **\$60,000** - Low income weatherization/EE retrofits (\$25K ESN, plus grant match)
  - **\$1,500** – Employee workshop
- 

That's just the first 4 ½ months...

Questions?

