

REQUEST FOR BOARD ACTION

HENDERSON COUNTY BOARD OF COMMISSIONERS

MEETING DATE: Monday, October 2, 2017

SUBJECT: Energy & Fuel Management Update for FY 16-17

PRESENTER: Rachel Kipar, Environmental Programs Coordinator

ATTACHMENTS: Yes,
1. Energy & Fuel Management Data

SUMMARY OF REQUEST:

This report details the County's use of energy and fuel during FY 2016-2017. Considered in this report are most general fund departments, three enterprise funds, and several departments or organizations that receive some form of reimbursement.

The data in this report serve three purposes: to juxtapose budgets versus actuals of fuel and energy dollars, compare this past fiscal year with FY 15-16 to create trends and understand patterns of usage, and to outline energy and fuel efficiency projects and opportunities for better annual management of resources and future improvements.

BOARD ACTION REQUESTED:

No Board action is requested. This item is for informational purposes only.

Suggested Motion:
No motion suggested.



Henderson County Energy & Fuel Management Report Fiscal Year 2016-2017

Table of Contents

Summary of FY 16-17 Utility & Fuel Budgets by Type and Commodity.....	2
Assessment Methods	3
Total Budget View: Approved FY Budget Breakdown by Commodity Category.....	5
2-Year Comparison of Overall Energy Use from FY 2015-2016 to FY 2016-2017.....	6
Utility & Fuel Usage and Cost by Budget Allocation	6
Quarters 1-2 Assessment.....	7
Quarters 3-4 Assessment.....	7
Fuel Consumption FY 16-17: Gallons and Costs.....	11
Rebates and Efficiency Projects Summary 2014-2015.....	13

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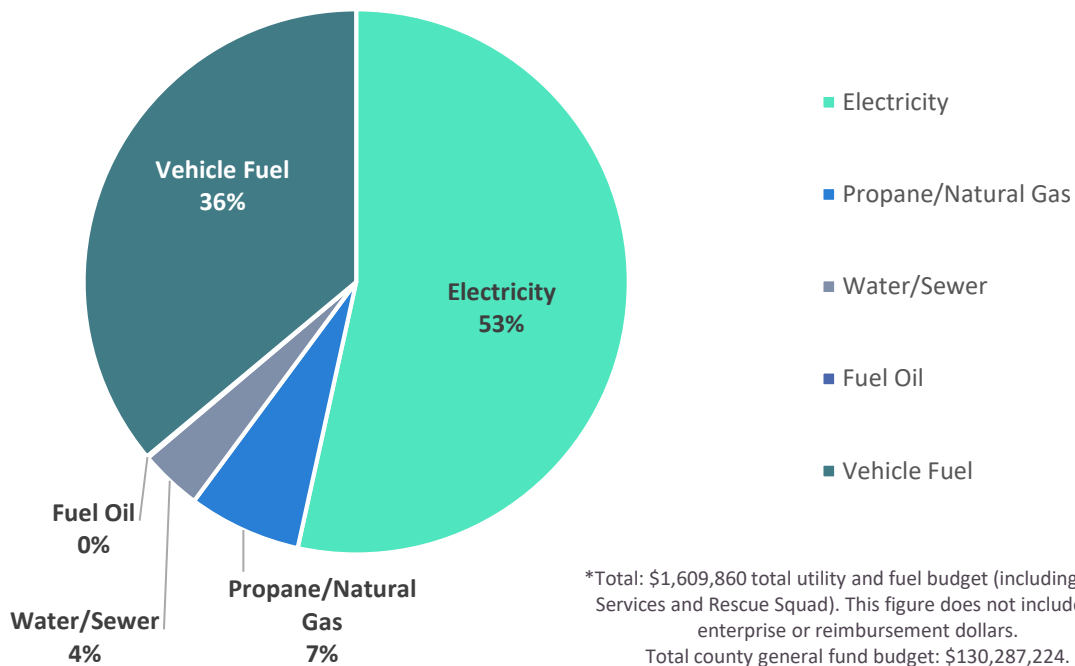
Summary of FY 16-17 Utility & Fuel Budgets by Type and Commodity

This report is a compilation of FY 2016-2017 utility and fuel usage assessing the budgeted versus actual figures of Henderson County departments' consumption of fuel and utilities (electricity, natural gas/propane, water/sewer, fuel oil, unleaded fuel, diesel fuel, and compressed natural gas [CNG]). The data are portrayed in dollars, kWh (kilowatt hours to measure electricity), BTUs (British Thermal Units or Therms as a measurement of heat), and kgal (thousand gallons of water/sewer).

The total county budget approved for FY 16-17 was \$130,287,224. Of this overall budget, the following amounts were allocated to utilities and fuel in the general fund (including Court Services and Rescue Squad as these departments have dedicated general fund line items):

- \$861,100- electricity
 - \$107,950- propane/natural gas
 - \$58,800- water/sewer
 - \$1,000- fuel oil
 - \$581,110- vehicle fuel (diesel, unleaded, natural gas)
- \$1,609,860 total budgeted in FY 16-17 for vehicle fuel and utilities*

**FY 16-17 General Fund Utility and Fuel Budget
% by Commodity ***



Enterprise funds (Solid Waste, Justice Academy, Cane Creek):

- \$47,700- electricity
- \$3,300- propane/natural gas
- \$12,480- water/sewer
- \$0- fuel oil
- \$65,000- vehicle fuel (diesel, unleaded, natural gas)
\$128,480 total budgeted in FY 16-17 for vehicle fuel and utilities

Partial reimbursements from other agencies (Public Transit, WCCA):

- \$75,600- vehicle fuel (diesel, unleaded, natural gas)
\$75,600 total budgeted in FY 16-17 for vehicle fuel and utilities

In total, all of these allocations make up less than 1% of the total county budget, approved for FY 16-17 at \$130,287,224.

Assessment Methods

This data in this report are broken down biannually, with observations detailing combined figures for Quarters 1-2 (July - December 2016) and Quarters 3-4 (January - June 2017). Financial figures were gathered from end-of-year Munis reports and analyzed with basic formulas using Excel and other methods. Major findings and conclusions throughout this report are shown as italicized text.

The accounts represented in this report are detailed by commodity and department as follows:

DEPARTMENT		ACCOUNT	
115419	FACILITY SERVICES	534001	ELECTRICITY
115419	FACILITY SERVICES	534002	PROPANE/NATURAL GAS
115419	FACILITY SERVICES	534003	WATER/SEWER
115419	FACILITY SERVICES	534004	FUEL OIL
115421	COURT FACILITIES	534001	ELECTRICITY
115421	COURT FACILITIES	534002	PROPANE/NATURAL GAS
115421	COURT FACILITIES	534003	WATER/SEWER
115431	SHERIFF	534001	ELECTRICITY
605472	SOLID WASTE	534001	ELECTRICITY
605472	SOLID WASTE	534002	PROPANE/NATURAL GAS
605472	SOLID WASTE	534003	WATER
615711	CANE CREEK	534001	ELECTRICITY
615711	CANE CREEK	534002	PROPANE/NATURAL GAS
615711	CANE CREEK	534003	WATER
635711	JUSTICE ACADEMY	534001	ELECTRICITY
635711	JUSTICE ACADEMY	534003	WATER
115414	ASSESSOR	525001	FUEL COSTS
115419	FACILITY SERVICES	525001	FUEL COSTS
115420	GARAGE	525001	FUEL COSTS
115431	SHERIFF	525001	FUEL COSTS
115432	DETENTION	525001	FUEL COSTS

115434	FIRE MARSHAL/SERVICES	525001	FUEL COSTS
115435	BUILDING SERVICES	525001	FUEL COSTS
115437	EMERGENCY MEDICAL SERVICES	525001	FUEL COSTS
115438	ANIMAL SERVICES	525001	FUEL COSTS
115471	SOIL AND WATER	525001	FUEL COSTS
115491	PLANNING	525001	FUEL COSTS
115492	CODE ENFORCEMENT	525001	FUEL COSTS
115495	COOPERATIVE EXTENSION	525001	FUEL COSTS
115510	PUBLIC HEALTH	525001	FUEL COSTS
115512	ENVIRONMENTAL HEALTH	525001	FUEL COSTS
115531	DEPT. OF SOCIAL SERVICES	525001	FUEL COSTS
115611	LIBRARY	525001	FUEL COSTS
115612	RECREATION	525001	FUEL COSTS
115496	PROJECT MANAGEMENT	525001	FUEL COSTS
115442	RESCUE SQUAD	525001	FUEL COSTS
335497	PUBLIC TRANSIT	525001	FUEL COSTS
605472	SOLID WASTE	525001	FUEL COSTS
615711	CANE CREEK	525001	FUEL COSTS

COLOR CODES:	ENTERPRISE FUNDS	REIMBURSED COSTS	PARTIAL STATE REIMBURSEMENTS
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Court Services and Rescue Squad have dedicated general fund line items and have therefore been included in general fund analysis. Court Services receives some state and federal financial reimbursements for utilities, whereby consumption monitoring becomes critical for annual planning. Our partnership with Western Carolina Community Action (WCCA) for the Apple Country Transit System does not receive its own approved line item in the Henderson County general fund budget, however; this system is a very large fuel user of our CNG fueling station on Williams Street and we do monitor the fuel usage of WCCA.

Presently, all departments (including enterprise funds and those departments that receive reimbursements) budget their own fuel costs for vehicle usage annually. Fuel usage is also closely monitored for unleaded, diesel, and CNG consumption by department heads, Administration, Finance, and Environmental Programs.

The Facilities Services department utility line items account for electricity, water/sewer, natural gas/propane, and fuel oil consumed in all Henderson County buildings and facilities. This singular designation to this department allows better interpretation of usage information as multiple departments occupy county buildings and facilities, rather than allocating a percentage of utility budgets to each department in a building based on that department's square footage occupancy.

Total Budget View: Approved FY Budget Breakdown by Commodity Category

DEPARTMENT		ACCOUNT		ELECTRICITY	PROPANE/ NATURAL GAS	WATER/ SEWER	FUEL OIL	FUEL COSTS	TOTAL
115419	FACILITY SERVICES	534001	ELECTRICITY	\$ 780,000					\$ 780,000
115419	FACILITY SERVICES	534002	PROPANE/NATURAL GAS		\$ 90,000				\$ 90,000
115419	FACILITY SERVICES	534003	WATER/SEWER			\$ 51,300			\$ 51,300
115419	FACILITY SERVICES	534004	FUEL OIL				\$ 1,000		\$ 1,000
115421	COURT FACILITIES	534001	ELECTRICITY	\$ 78,000					\$ 78,000
115421	COURT FACILITIES	534002	PROPANE/NATURAL GAS		\$ 17,950				\$ 17,950
115421	COURT FACILITIES	534003	WATER/SEWER			\$ 7,500			\$ 7,500
115431	SHERIFF	534001	ELECTRICITY	\$ 3,000					\$ 3,000
605472	SOLID WASTE	534001	ELECTRICITY	\$ 18,300					\$ 18,300
605472	SOLID WASTE	534002	PROPANE/NATURAL GAS		\$ 800				\$ 800
605472	SOLID WASTE	534003	WATER			\$ 11,500			\$ 11,500
615711	CANE CREEK	534001	ELECTRICITY	\$ 26,000					\$ 26,000
615711	CANE CREEK	534002	PROPANE/NATURAL GAS		\$ 2,500				\$ 2,500
615711	CANE CREEK	534003	WATER			\$ 850			\$ 850
635711	JUSTICE ACADEMY	534001	ELECTRICITY	\$ 3,400					\$ 3,400
635711	JUSTICE ACADEMY	534003	WATER			\$ 130			\$ 130
115414	ASSESSOR	525001	FUEL COSTS					\$ 6,250	\$ 6,250
115419	FACILITY SERVICES	525001	FUEL COSTS					\$ 14,000	\$ 14,000
115420	GARAGE	525001	FUEL COSTS					\$ 8,000	\$ 8,000
115431	SHERIFF	525001	FUEL COSTS					\$ 345,000	\$ 345,000
115432	DETENTION	525001	FUEL COSTS					\$ 12,500	\$ 12,500
115434	FIRE MARSHAL/SERVICES	525001	FUEL COSTS					\$ 7,500	\$ 7,500
115435	BUILDING SERVICES	525001	FUEL COSTS					\$ 16,750	\$ 16,750
115437	EMERGENCY MEDICAL SERVICES	525001	FUEL COSTS					\$ 97,500	\$ 97,500
115438	ANIMAL SERVICES	525001	FUEL COSTS					\$ 1,900	\$ 1,900
115471	SOIL AND WATER	525001	FUEL COSTS					\$ 1,000	\$ 1,000
115491	PLANNING	525001	FUEL COSTS					\$ 1,250	\$ 1,250
115492	CODE ENFORCEMENT	525001	FUEL COSTS					\$ 2,350	\$ 2,350
115495	COOPERATIVE EXTENSION	525001	FUEL COSTS					\$ 1,000	\$ 1,000
115510	PUBLIC HEALTH	525001	FUEL COSTS					\$ 3,000	\$ 3,000
115512	ENVIRONMENTAL HEALTH	525001	FUEL COSTS					\$ 15,750	\$ 15,750
115531	DEPT. OF SOCIAL SERVICES	525001	FUEL COSTS					\$ 15,000	\$ 15,000
115611	LIBRARY	525001	FUEL COSTS					\$ 4,000	\$ 4,000
115612	RECREATION	525001	FUEL COSTS					\$ 17,500	\$ 17,500
115496	PROJECT MANAGEMENT	525001	FUEL COSTS					\$ 500	\$ 500
115442	RESCUE SQUAD	525001	FUEL COSTS					\$ 10,360	\$ 10,360
335497	PUBLIC TRANSIT	525001	FUEL COSTS					\$ 75,600	\$ 75,600
605472	SOLID WASTE	525001	FUEL COSTS					\$ 60,000	\$ 60,000
615711	CANE CREEK	525001	FUEL COSTS					\$ 5,000	\$ 5,000

COLOR CODES ENTERPRISE FUNDS PARTIAL STATE REIMBURSEMENTS REIMBURSED COSTS

2-Year Comparison of Overall Energy Use from FY 2015-2016 to FY 2016-2017

The table below outlines the overall energy usage of all county facilities and buildings from FY 15-16 to FY 16-17.

The most dramatic decrease in energy use occurred in kWh (kilowatt hour) electric consumption, dropping between the two fiscal years by 21%. This marked improvement likely occurred due to needed energy efficiency upgrades of major equipment, such as the chiller at the 1995 Courthouse, rooftop HVAC unit replacements at King Street, and other high-capacity systems that require annual maintenance and are on a 5 to 15-year replacement schedule.

Increased natural gas usage is consistent with increased CNG vehicle usage from one fiscal year to the next; this 891-gallon increase from FY 15-16 to FY 16-17 can be viewed in the second graph on page 13. Some county buildings and facilities, but not all, use natural gas as the main heating source. The chief increase in natural gas usage, however, can be attributed to the commissioning of the new Health Sciences Center in July of 2016. Usage patterns of this building are referenced in more detail on page 8 in the Quarters 1-2 Assessment section.

Increased water & sewer usage from fiscal year to year can be attributed to a new park tap fee and several leakage events that caused higher-than-normal consumption. These leaks were remedied between the County and City of Hendersonville Water & Sewer Department.

Unit of Measurement	2015-2016 Energy Usage at All Facilities	2016-2017 Energy Usage at All Facilities	Percent Change
kWh (electricity)	10,381,877	8,216,604	-21%
Therms (natural gas)	178,677	211,035	18%
Kgal (water & sewer)	9,821,300	12,058,900	23%

As capital projects and improvements come online, the county's energy consumption is expected to grow. Environmental Programs, Facilities Services, Solid Waste, and others regularly monitor utility rate changes and work with our account representatives to ensure our electric, natural gas, and water/sewer rates are on par with our account types and consumption. Annual energy efficiency improvements, such as LED upgrades, low flow appliance installation, and building envelope assessments, will certainly decrease usage in identified buildings and Facilities Services and Environmental Programs continue to work closely on evaluating necessary upgrades.

Utility & Fuel Usage and Cost by Budget Allocation

The following two tables show the budget versus actual costs for utilities and fuel across all departments. These tables are broken down by general fund, enterprise funds, and departments that received partial

state or other reimbursement. Note that the energy management data for the public schools and community college are not reflected in the information presented in this RBA.

Quarters 1-2 Assessment

The first table (page 9) reflects Quarters 1-2 of FY 16-17 and all commodities and fuel usage are benchmarked for consumption halfway through the year at 50%. This allows departments to recognize the pace at which the approved budget per commodity is being utilized for the first six months of the fiscal year. Should a department use more than 50% of a particular utility or fuel budget within quarters 1-2 of the fiscal year, an appropriate response would be to closely monitor and prepare for less usage in the second half of the year so as to avoid line item budget transfers before the close of the fiscal year.

Of the utilities (electricity, propane/natural gas, water/sewer, and fuel oil), the Facility Services water/sewer usage exceeded the 50% threshold by 19% and the Court Services water/sewer budget was exceeded by 3%. Both situations were due to leakage issues, and a tap fee for a new meter at Edneyville Park caused a high bill. Of the vehicle fuel budgeted for each department, three departments exceeded the 50% benchmark: Fire Marshal by less than 1%, Rescue Squad by 47% (due to multiple extreme weather responses), and Project Management by 96% (this line item was underbudgeted as the department was newly created in 2016).

In 2016 the Health Sciences Center was commissioned and 3 new meters were brought online (electric, water/sewer, natural gas). Because this facility hosts a range of users with varied energy needs, we have been monitoring usage and thusly working with our utility vendors and maintenance staff at Blue Ridge Community College throughout the year to adjust controls and automations for increased energy efficiency. Now that this facility has been in use for one year, we can begin to create baseline consumption patterns to forecast utility budgets for this facility in the future.

Overall, fuel and utility budgets were well maintained during the first six months of the fiscal year.

Quarters 3-4 Assessment

The second table (page 10) reflects Quarters 3-4 of FY 16-17 and all commodities and fuel usage are benchmarked for consumption for the final six months of the fiscal year at 100%. This percentage was determined by combining the percentage used in July-December 2016 with the percentage of the budget used from January-June 2017, completing the entire fiscal year.

Of the utilities (electricity, propane/natural gas, water/sewer, and fuel oil), the Facility Services water/sewer usage exceeded the 100% threshold by 27%. The overall Court Services water/sewer budget was exceeded by 16%. Facility Services and Environmental Programs have been researching energy efficiency upgrades for this facility to lower annual consumption of both water and electricity. Of the enterprise funds, the Solid Waste electricity budget was exceeded by 9%, likely due to facility improvements and transfer station bay repairs. Of the vehicle fuel budgeted for each department, three departments exceeded the 100% benchmark: Garage by more than 600% (this line item fluctuates with motor pool and emergency usage and also accounts for the quarterly CNG excise taxes), Rescue Squad

by 72% (due to multiple extreme weather events across the southeast that required Squad response), and Project Management more than 300% (this line item was underbudgeted as the department was newly created in 2016).

Overall, the majority of departments stayed well under or just within the budgeted amount for utilities and fuel during FY 16-17.

Total County Budget	\$ 130,287,224
Total County Utility & Fuel Budget*	\$ 1,609,860
Utilities & Fuel as % of Total County Budget	1.24%

**QTR 1-2: Benchmark Usage 50%,
July-December 2016**

DEPARTMENT	ELECTRICITY BUDGET	PROPANE/ NATURAL GAS BUDGET	WATER/ SEWER BUDGET	FUEL OIL BUDGET	% BUDGET ACTUALIZED (July-Dec 2016 of 50%)
FACILITY SERVICES	\$ 780,000				40%
FACILITY SERVICES		\$ 90,000			0%
FACILITY SERVICES			\$ 51,300		69%
FACILITY SERVICES				\$ 1,000	0%
COURT FACILITIES	\$ 78,000				40%
COURT FACILITIES		\$ 17,950			18%
COURT FACILITIES			\$ 7,500		53%
SHERIFF	\$ 3,000				15%
Total	\$861,000	\$107,950	\$58,800	\$1,000	
% of utilities & fuel budget	53%	7%	4%	0.1%	
% of total county budget	0.66%	0.08%	0.05%	0.00%	

ENTERPRISE FUND	ELECTRICITY BUDGET	PROPANE/ NATURAL GAS BUDGET	WATER/ SEWER BUDGET	FUEL OIL BUDGET	% BUDGET ACTUALIZED (July-Dec 2016 of 50%)
SOLID WASTE	\$ 18,300				37%
		\$ 800			0%
			\$ 11,500		33%
Total Utility Budget	\$ 30,600				
CANE CREEK	\$ 26,000				34%
		\$ 2,500			8%
			\$ 850		40%
Total Utility Budget	\$ 29,350				
JUSTICE ACADEMY	\$ 3,400				31%
			\$ 130		44%
Total Utility Budget	\$ 3,530				

DEPARTMENT	VEHICLE FUEL COSTS BUDGET	% BUDGET ACTUALIZED (July-Dec 2016 of 50%)
ASSESSOR	\$ 6,250	18%
FACILITY SERVICES	\$ 14,000	37%
GARAGE	\$ 8,000	31%
SHERIFF	\$ 345,000	30%
DETENTION	\$ 12,500	38%
FIRE MARSHAL	\$ 7,500	51%
EMERGENCY MEDICAL SERVICES	\$ 97,500	28%
BUILDING SERVICES	\$ 16,750	35%
ANIMAL SERVICES	\$ 1,900	20%
SOIL AND WATER	\$ 1,000	11%
PLANNING	\$ 1,250	18%
CODE ENFORCEMENT	\$ 2,350	26%
COOPERATIVE EXTENSION	\$ 1,000	38%
PUBLIC HEALTH	\$ 3,000	22%
ENVIRONMENTAL HEALTH	\$ 15,750	29%
DEPT. OF SOCIAL SERVICES	\$ 15,000	22%
LIBRARY	\$ 4,000	25%
RECREATION	\$ 17,500	30%
PROJECT MANAGEMENT	\$ 500	146%
PUBLIC TRANSIT	\$ 75,600	29%
RESCUE SQUAD	\$ 10,360	97%
SOLID WASTE	\$ 60,000	17%
CANE CREEK	\$ 5,000	23%
Total ^	\$581,110	
% of utilities & fuel budget	36%	
% of total county budget	0.45%	

* This total includes all general fund line items budgeted, plus Rescue Squad and Court Services, which receive reimbursements. This total does not include any enterprise fund dollars or Public Transit (WCCA) funds.

^ This total includes all general fund line items budgeted plus Rescue Squad, which receives reimbursements. This total does not include any enterprise fund dollars or Public Transit (WCCA) funds.

COLOR CODES:

ENTERPRISE FUNDS	REIMBURSED COSTS	PARTIAL STATE REIMBURSEMENTS
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Total County Budget	\$ 130,287,224
Total County Utility & Fuel Budget*	\$ 1,609,860
Utilities & Fuel as % of Total County Budget	1.29%

QTR 3-4: % TOTAL FY UTILITY BUDGET USED (July 2016 - June 2017 of 100%)

DEPARTMENT	ELECTRICITY BUDGET	PROPANE/ NATURAL GAS BUDGET	WATER/ SEWER BUDGET	FUEL OIL BUDGET	% TOTAL FY UTILITY BUDGET USED (July 2016 - June 2017 of 100%)
FACILITY SERVICES	\$ 780,000				90%
FACILITY SERVICES		\$ 90,000			93%
FACILITY SERVICES			\$ 51,300		127%
FACILITY SERVICES				\$ 1,000	36%
COURT FACILITIES	\$ 78,000				83%
COURT FACILITIES		\$ 17,950			70%
COURT FACILITIES			\$ 7,500		116%
SHERIFF	\$ 3,000				15%
Total	\$861,000	\$107,950	\$58,800	\$1,000	
% of utilities & fuel budget	53%	7%	4%	0.1%	
% of total county budget	0.66%	0.08%	0.05%	0.00%	

ENTERPRISE FUND	ELECTRICITY BUDGET	PROPANE/ NATURAL GAS BUDGET	WATER/ SEWER BUDGET	FUEL OIL BUDGET	% TOTAL FY UTILITY BUDGET USED (July 2016 - June 2017 of 100%)
SOLID WASTE	\$ 18,300				109%
		\$ 800			22%
			\$ 11,500		71%
Total Utility Budget	\$ 30,600				
CANE CREEK	\$ 26,000				94%
		\$ 2,500			24%
			\$ 850		81%
Total Utility Budget	\$ 29,350				
JUSTICE ACADEMY	\$ 3,400				81%
			\$ 130		88%
Total Utility Budget	\$ 3,530				

DEPARTMENT	VEHICLE FUEL COSTS BUDGET	% TOTAL FY FUEL BUDGET USED (July 2016 - June 2017 of 100%)
ASSESSOR	\$ 6,250	42%
FACILITY SERVICES	\$ 14,000	93%
GARAGE	\$ 8,000	700%
SHERIFF	\$ 345,000	61%
DETENTION	\$ 12,500	82%
FIRE MARSHAL	\$ 7,500	88%
EMERGENCY MEDICAL SERVICES	\$ 97,500	58%
BUILDING SERVICES	\$ 16,750	74%
ANIMAL SERVICES	\$ 1,900	42%
SOIL AND WATER	\$ 1,000	25%
PLANNING	\$ 1,250	29%
CODE ENFORCEMENT	\$ 2,350	50%
COOPERATIVE EXTENSION	\$ 1,000	70%
PUBLIC HEALTH	\$ 3,000	50%
ENVIRONMENTAL HEALTH	\$ 15,750	57%
DEPT. OF SOCIAL SERVICES	\$ 15,000	44%
LIBRARY	\$ 4,000	52%
RECREATION	\$ 17,500	68%
PROJECT MANAGEMENT	\$ 500	317%
PUBLIC TRANSIT	\$ 75,600	68%
RESCUE SQUAD	\$ 10,360	172%
SOLID WASTE	\$ 60,000	74%
CANE CREEK	\$ 5,000	76%
Total ^	\$581,110	
% of utilities & fuel budget	36%	
% of total county budget	0.45%	

* This total includes all general fund line items budgeted, plus Rescue Squad and Court Services, which receive reimbursements. This total does not include any enterprise fund dollars or Public Transit (WCCA) funds.

^ This total includes all general fund line items budgeted, plus Rescue Squad and Court Services, which receive reimbursements. This total does not include any enterprise fund dollars or Public Transit (WCCA) funds.

COLOR CODES:

ENTERPRISE FUNDS	REIMBURSED COSTS	PARTIAL STATE REIMBURSEMENTS
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Fuel Consumption FY 16-17: Gallons and Costs

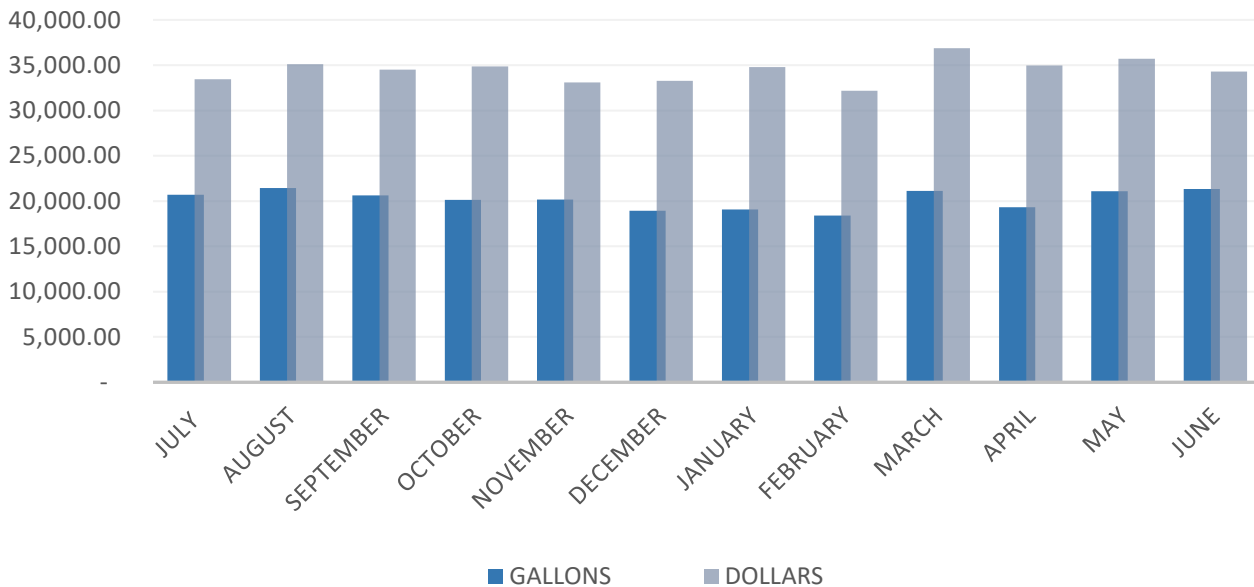
The graphs below display the fuel consumption across all Henderson County departments (including enterprise funds and the departments that receive reimbursements) from July 2016 until June 2017. The types of fuel include unleaded, diesel, and compressed natural gas (CNG). It is important to note that entire fuel usage of two enterprise funds, Solid Waste and Cane Creek Sewer District, and are not fully accounted for in these findings. These departments use an on-site fueling station at the Solid Waste facility for off-road dyed diesel to fuel heavy equipment and other unleaded fueled vehicles used only on the properties. Both departments fuel with CNG as needed at the Williams Street station and these gallons are accounted for in the following data.

The graph titled “FY 16-17 Gallons Consumed and Total Gallons Cost by Month” shows the number of gallons per month consumed across all county departments relative to the funds spent on fuel monthly. *In total, county departments consumed just over 242,270 gallons of all fuels at a cost of about \$413,140 (not considering credit card and other processing or purchase fees).*

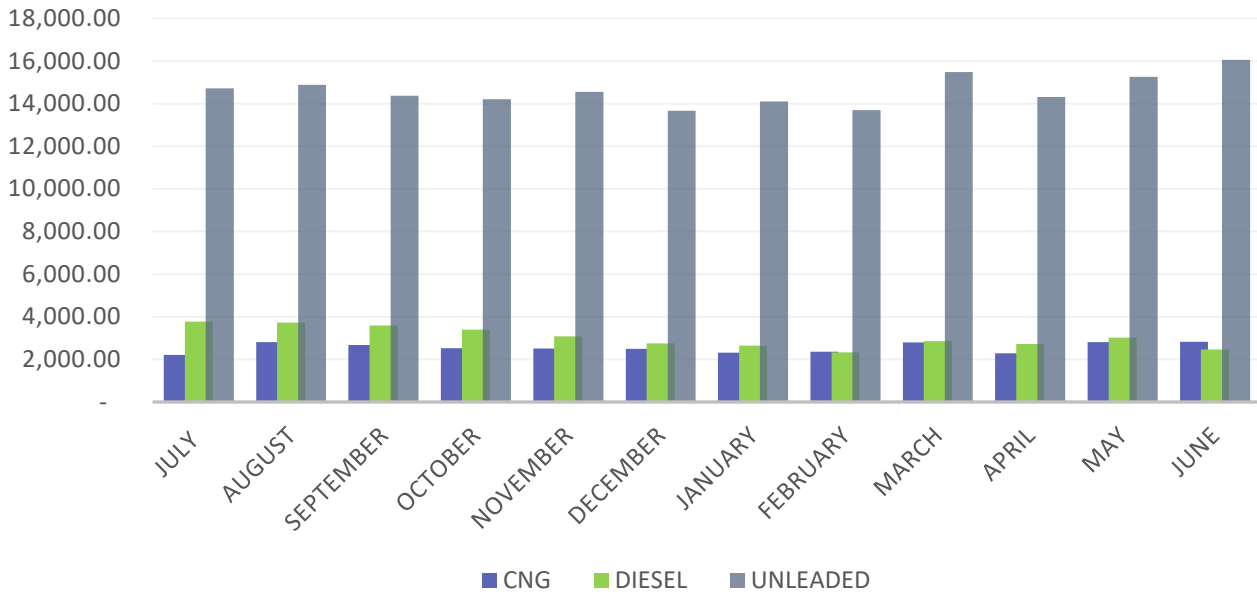
On average, county departments consumed 20,189 gallons of fuel (diesel, unleaded, and CNG) at a cost of about \$34,428 per month. The highest use months in the 16-17 FY were: August 2016 (21,425.29 gallons at \$35,126.48), March 2017 (21,125.82 gallons at \$36,890.47), and May 2017 (21,071.85 gallons at \$35,707.36). This data is displayed in the graph titled “FY 16-17 Monthly Gallons Consumed by Fuel Type.”

These high-volume months were likely due to a variety of factors including increased safety and emergency response to natural disasters and weather-related events, capital improvements projects, increased numbers of inspections, and other required travel.

FY 16-17 Gallons Consumed and Total Gallons Cost by Month

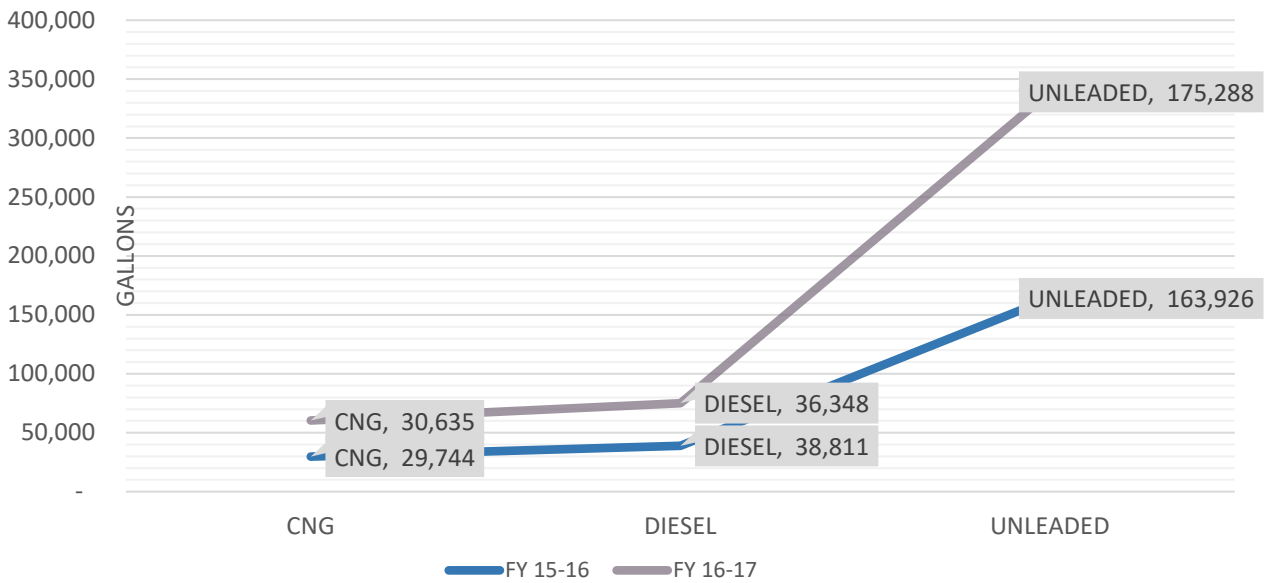


FY 16-17 Monthly Gallons Consumed by Fuel Type



In comparing the county’s consumption of fuel (all types by all departments) from FY 15-16 to FY16-17, CNG usage increased from one year to the next by 3%, diesel decreased by 6%, and unleaded increased by 7%. The annual total gallons over this 2-year period are shown in the graph below.

2-Year Fuel Consumption Comparison of All Fuel Types



Rebates and Efficiency Projects Summary 2014-2015

This is a table of projects eligible from 2014-2015 to receive incentive reimburses from Duke Energy for a variety of energy efficiency upgrades. Incentive eligibility is determined by the locations and types of electric accounts, as well as categories of energy projects. No incentives were sought in FY 16-17 due to eligibility requirements, but several LED upgrades are planned for the fall of 2017 (FY 17-18). The reimbursements are directly deposited back into the applicable accounts (in this case, one reimbursement went back into the Solid Waste enterprise fund and the other two went back into the Facilities Services projects budget within the general fund).

PROJECT TYPE	LOCATION	APPLICATION/ REIMBURSEMENT DATE	INCENTIVE AMOUNT RECEIVED
LED lighting upgrades	Transfer Station	December 2014	\$ 4,195.00
New chiller	95 Courthouse	October 2015	\$ 14,184.72
HVAC rooftop units	Detention Center	December 2015	\$ 3,502.00
Total Reimbursements			\$ 21,881.72

As part of the overall energy management of utility accounts, Environmental Programs works with our Duke Energy large account representative and Facilities Services, Project Management, Solid Waste, and Engineering to assess all electric accounts to ensure accuracy and rate correctness.