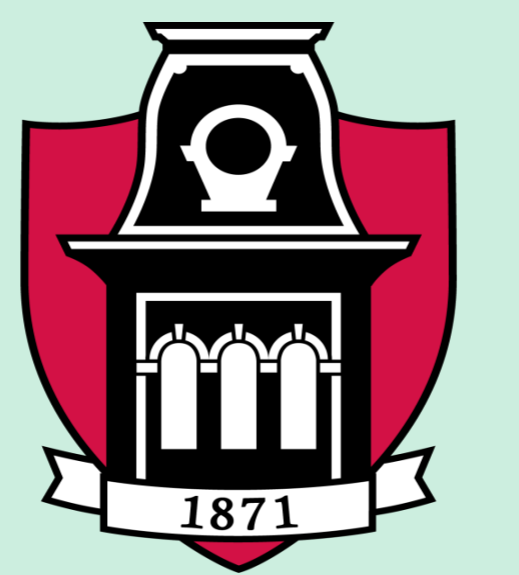


Compilation of Greenhouse Gas Emissions in the City of Fayetteville



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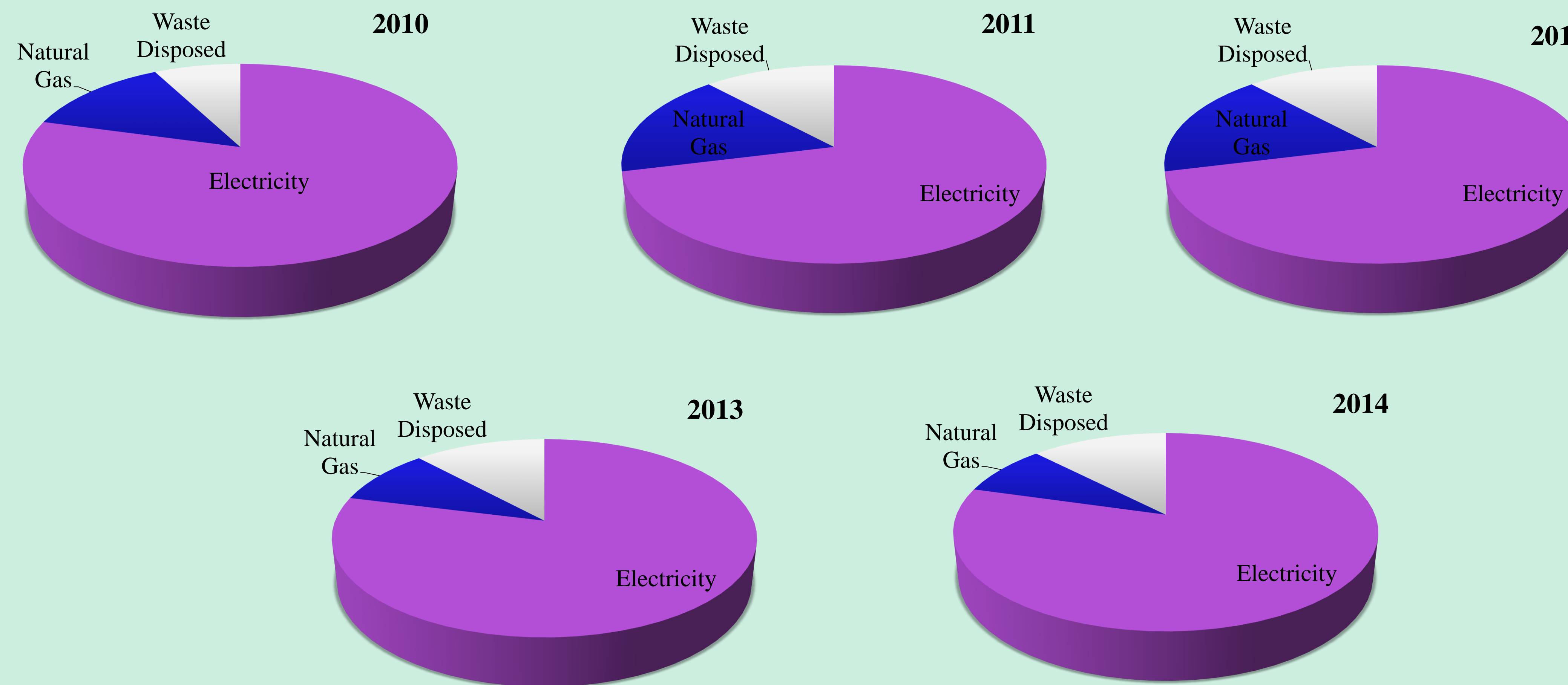
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THE PROBLEM

SUSTAINABILITY

The City of Fayetteville was recently certified as a three STAR Community and is now formally recognized for community sustainability leadership. As part of their follow-up assessment on the Sustainability Tool for Assessing and Rating (STAR) Communities score card, the City has identified CE-2: Greenhouse Gas Mitigation as a potential area for improvement. Under Outcome 1 of CE-2 they must “demonstrate incremental progress towards achieving 80% reduction in community-wide greenhouse gas emissions by 2050” (see attached for more detail).



This project contributes to the sustainability of natural systems through the planned percentage reduction of greenhouse gas emissions. This will benefit the natural environment through reduction of carbon dioxide (CO₂), a major greenhouse gas. In addition, this reduction program contributes to the sustainability of social systems. Because the local government collects and analyzes this data, public awareness is raised and the information is made more publically aware to local citizens.

Figure 1: Pie charts depicting the amounts of CO₂ released by electricity, natural gas, and waste disposal.



THE PROJECT

The ICLEI protocol used to compile the STAR report requires the following Basic Emissions Generating Activities: use of electricity by the community, use of fuel in residential and commercial stationary combustion equipment, and generation of solid waste by the community. After collecting data from the City of Fayetteville from the baseline year of 2010 to the present, this data was used in the accounting and reporting of the greenhouse gas emissions from the past five years.

This project has enriched my experience at the University of Arkansas, and allowed me to gain some real life experience in the field of sustainability. By collecting data on issues that threaten the sustainability of the City of Fayetteville, I have been able to educate my peers on the amount of CO₂ released by our everyday activities. As seen in the trend data (Figure 2), Fayetteville has succeeded in the ultimate goal of seeing greenhouse gas emission reduction.

Initial Data	
Selected Baseline Year*	2010
Collection Interval (Year)*	1
Units of emissions (if other than MTCO ₂ e)	

Trend Data					
Year*	Greenhouse Gas Emissions* in MTCO ₂ e	Percent Changed since Baseline*	Notes / Comments	Relevant Contact	Data Specifics
2010	1,654,486	not applicable	Swepco, Ozark Electric, Source Gas NWA, Kessler Consulting		
2011	756,848	-54.25%			
2012	1,118,972	-32.37%			
2013	1,222,220	-26.13%			
2014	1,145,028	-30.79%			

Figure 2: A screenshot of the final trend data spreadsheet from the STAR report.

Sources: Swepco Power Company, Ozark Electric Company, Source Gas NWA, Keller Consulting Group