

# Town of Yadkinville

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## Strategic Energy Management Plan

June 2011



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This Strategic Energy Management Plan was prepared by:

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In coordination with:

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## **Introduction**

The Town of Yadkinville is located in Yadkin County, North Carolina. The town has already shown a dedication to saving energy and creating a cleaner atmosphere to live in. Past and current town actions include:

- Town-wide curbside recycling
- T-8 lighting upgrades
- Energy Assessments conducted
- Lights are shut off
- Turn off areas of buildings when not in use (lights, HVAC)

This energy plan will act as the framework to build an increasingly sustainable and cost efficient town. These changes will not only create a cleaner community but encourage all residents to live a cleaner more energy efficient lifestyle.

The Town of Yadkinville is enthusiastic about moving forward with their commitment to save energy and are confident that this Energy Plan will be a helpful method to realize new saving potentials and goals.

## **Executive Summary**

This energy management plan is a collaborative work between the Northwest Piedmont Council of Governments, Waste Reduction Partners, and the Town of Yadkinville. This energy plan provides Yadkinville with a guide and an opportunity to make energy-conscious decisions that will make the town a leader to the community.

This Strategic Energy Management Plan acts as a guide to current and future energy uses. It outlines goals, as well as suggestions for supply, demand, and training. This set of guidelines gives the opportunity to save energy and to be good stewards to the environment. The suggested changes will make a smarter and more aware workplace.

Yadkinville has taken steps to identify key energy users in their workplaces and areas to focus on. These improvements will be considered based on need and available funding. These decisions should be made based on suggestions from energy assessments as well as suggestions from maintenance.

## **Goals**

The Town of Yadkinville will continue to improve its role in the environment and act as a leader to the surrounding community. These goals will improve the town image, make the environment cleaner, and encourage citizens to increase their role in being good stewards to the environment.

- Decrease Energy Use by 5% by 2012
- Decrease Energy Use by 15% by 2015
- Increase staff's energy awareness
- Reduce energy cost
- Reduce Water Use
- Educate community
- Incorporate Renewable Energy

## Strategies

These strategies are methods for the Town of Yadkinville to accomplish its goals. These strategies can be used in all town facilities. These strategies include but are not limited to:

1. Replace inefficient appliances
  - a. Water Heaters
  - b. HVAC
  - c. Motors
  - d. Refrigerators
2. Educate Staff
  - a. Provide Incentives
  - b. Offer talks or classes
  - c. Provide handouts or emails
3. Involve Citizens
  - a. Classes
  - b. Mailings
  - c. Information on Web
  - d. Encourage Recycling
4. Reduce water use
  - a. Low Flow Fixtures
  - b. Low gpf toilets
  - c. Employee Education
5. Initiate low-cost savings techniques
  - a. Motion sensors
  - b. Retrofit T12 fixtures with T-8 bulbs and electronic ballasts
  - c. Employee education/reminder emails

- d. 2-sided printing
6. Consider Renewables
- a. Use renewable energy when practical application is available
  - b. Solar Panels
  - c. “Green” Roofs
  - d. Greywater System

### **Key Elements of the Plan**

Data Collection – It is important to review the current energy uses in order to properly assess and encourage smart growth. This data collection includes the review of energy bills for water, electricity, and fossil fuel usage in order to benchmark and develop key performance indicators (KPI). This collection also includes an energy audit of buildings in order to better realize energy uses and potential problems.

Plan Development – This includes the review of policies and goals by the town leadership committee in order to encourage employee involvement and thoughts.

Communication and Employee Outreach – One of the most important parts of being energy efficient is educating the staff to be aware of their current energy usage and how to be more efficient with simple changes in behavior. These suggestions should be reminded to the staff in newsletters, emails, meetings, and handouts.

Implementation – Begin approved prioritized projects of energy efficiency and begins improvements based on energy assessments.

Evaluation – Review progress and goals. It is important to continually check progress and continue to push forward in energy efficiency.

### **Plan of Action**

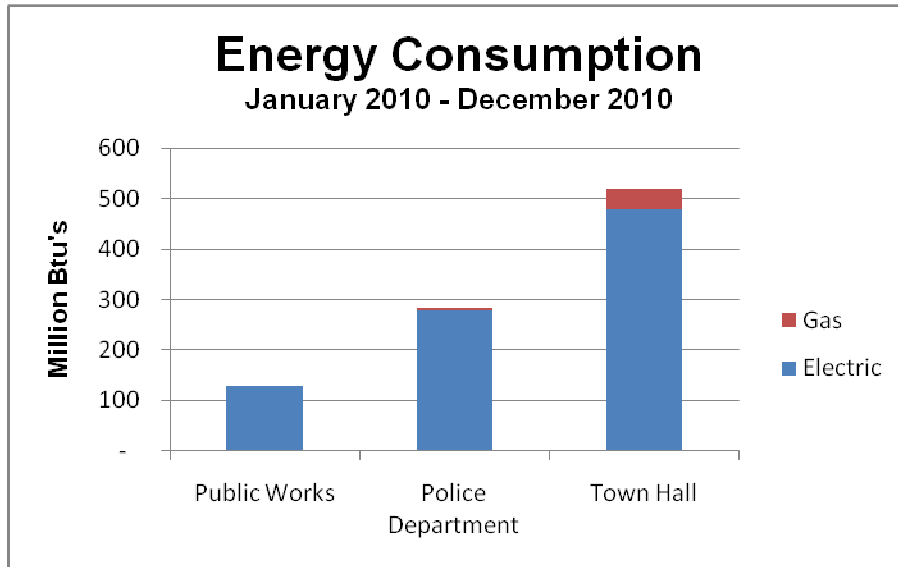
Existing Conditions – The Town of Yadkinville owns and operates \_\_\_ buildings, varying in age and totaling approximately \_\_\_\_\_ sq. ft.

Baseline Energy Consumption – A baseline was developed from utility bills from January 2010 to December 2010. The three buildings listed in the table are the target buildings. These buildings are the initial buildings to be evaluated. Other buildings will be added in the future.

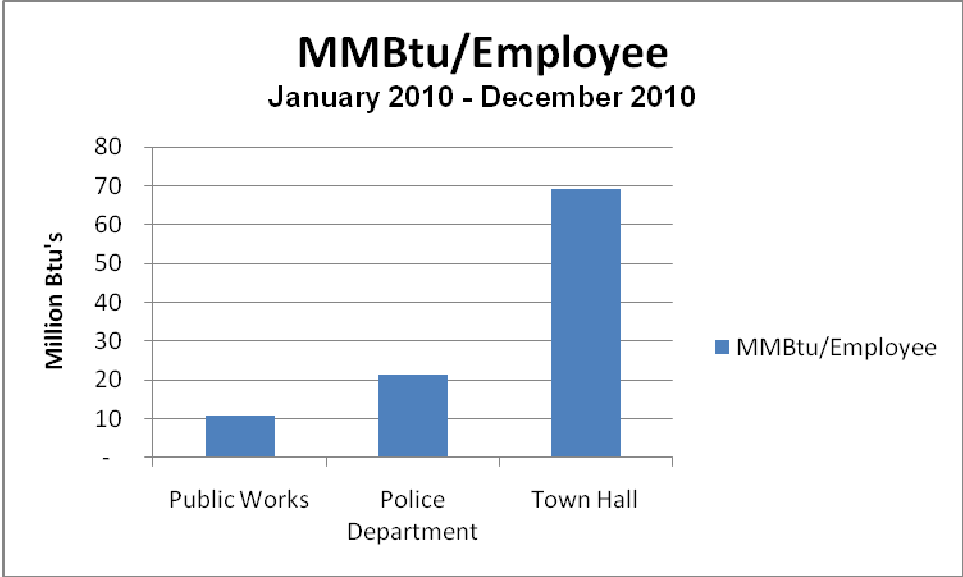
**Table 1**

Building	million Btus/yr	Energy Cost \$/yr	\$/MMBtu	KBTU/gsf	\$/gsf
Public Works	129.34	\$4,107	31.75	25.87	\$0.82
Police Department	279.66	\$6,165	22.04	46.61	\$1.26
Town Hall	483.72	\$11,951	24.71	96.74	\$2.39

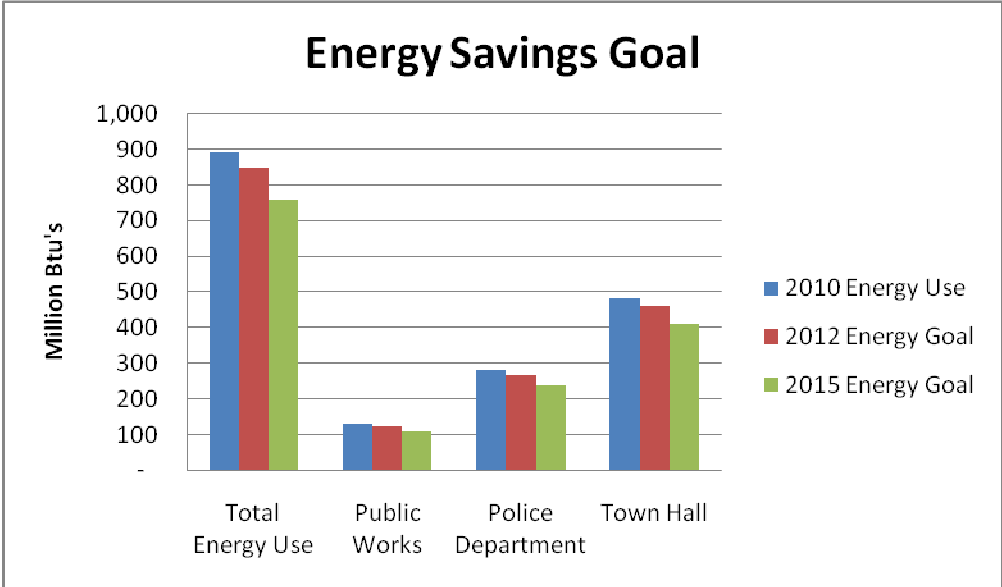
**Chart 1**



**Chart 2**



**Chart 3**





## Implementation

The Town of Yadkinville realizes that there are key steps to implement in order to have a successful energy plan. These advancements are major stepping stones in the energy saving process.

### 1. Employee Education

Educating the staff should be the first step in implementing the energy plan. Energy policies can change but the staff must understand them and how to save energy in a practical way for them the policies to be effective. It is important that the workforce is aware of the role they play in energy savings.

### 2. Lighting

Changing lighting is an energy saving strategy that has a very short payback period. By delamping and/or changing from T-12 bulbs to T-8 bulbs and incandescent bulbs to CFLs cost savings can be realized quickly.

### 3. Energy Assessments

Energy assessments have already been completed on three of Yadkinville's buildings. The results from these assessments should be used not only on these buildings but the saving techniques can be applied similarly on other town owned buildings.

## **Supply**

The Town of Yadkinville receives electricity from Duke Energy and natural gas from Frontier Energy. Water is provided by the Town of Yadkinville.

The Town of Yadkinville strives to receive energy and fuel at the best available rate and eliminate any billing errors that may have occurred.

Focus A presents the strategies and activities for the Supply Side.



## **Demand**

Energy Management begins with data collection. This data includes billing information, equipment information, and any other specifics pertaining to the energy use of the county facilities.

Recommendations made by the maintenance department combined with the information gathered from energy audits provided by WRP can be used as a key identifier of steps that can be taken to reduce energy use and lower utility bills.

Focus B presents the strategies and activities for the Demand Side.



## **Communication and Training**

In order for an energy plan to be successful it is important to keep the workforce involved. By encouraging sustainable and energy efficient techniques in the workplace employees can feel more involved and benefit personally by learning to use these same techniques at home to lower their individual energy use as well.

By informing and educating the community about the town's energy plan the overall area can stay involved and be a fundamental part of the process offering support and decreasing their own energy use.

