

EXAMPLES OF WRP ASSISTANCE TO MADISON COUNTY

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WRP Volunteer Energy Assessor

- 1 Strategic Energy Plan**
- 2 Energy Audits**
- 3 Staff Training**
- 4 Project Definition for Grant Financing**

MANAGE ENERGY USE TO MANAGE COST

Madison County owns 32 buildings
Approximately 220,000 square feet

Type	Amount
French Broad Electric and Progress Energy (Electricity)	\$164,650
Shaw Gas	\$39,653
O.A. Gregory (Diesel/Kerosene/Oil)	\$29,803
Buckner Oil	\$7,981
Total	\$242,087

Costs were not consolidated to get overall picture

Example 1

STRATEGIC ENERGY MANAGEMENT PLAN

WRP assisted Madison County in writing a 13 page plan that included:

Energy Policy - Madison County will continually improve its efficiency in the use of energy, water, and transportation systems for the betterment of our community and sustainability of the natural environment.

Strategies and Initiatives in three areas:

- Procurement of Energy
- Energy Use Management
- Administration, Communications and Training

Example 1

STRATEGIC ENERGY MANAGEMENT PLAN

(cont.)

Energy Use Management - Track annual total energy use in
10 major buildings

Madison County Facility	Cost	Total Energy million btu	Area Sq. Ft.	Energy Index btu/sqft	Performance
Courthouse	\$21,679	1014	8,720	116,238	Bad
Health/Dental Clinic	\$11,292	406	6,193	65,485	Average
Library - Main Branch	\$17,234	727	11,421	63,633	Average
Spinkle Shelton Building	\$8,311	257	4,158	61,729	Average
Cooperative Extension	\$13,869	507	12,000	42,218	Good
County Admin Bldg. & DSS	\$29,564	939	23,733	39,570	Good

Courthouse is least efficient --- needs the most attention

Example 1

STRATEGIC ENERGY MANAGEMENT PLAN (cont.)

Table 3. ENERGY USE MANAGEMENT

Strategy 1.	Track annual total energy use per square foot in major buildings and measure improvement relative to FY 07/08 baseline
Strategy 2.	Identify, prioritize and carry out projects to improve energy efficiency
Strategy 3.	Pursue grant and other financial incentives programs as appropriate to implement projects

2009-2010 Activities	Measurement		Savings		Cost	Jobs	Assigned to	Funding Source
	Expected	Actual	Expected	Actual				
Track KPI (btu/sqft) for 10 buildings in multisite spreadsheet	10 Buildings		n/a	n/a	n/a	n/a	Finance	County
Courthouse - plan and implement improvements	17% reduction in Energy Index		At least \$3700		TBD	TBD	Maintenance	County Grant(s)
1 Additional building - plan and implement improvements to energy efficiency	TBD		TBD		TBD	TBD	Maintenance	County Grant(s)
Develop fleet management plan	TBD		TBD		TBD	TBD	Maintenance	County Grant(s)

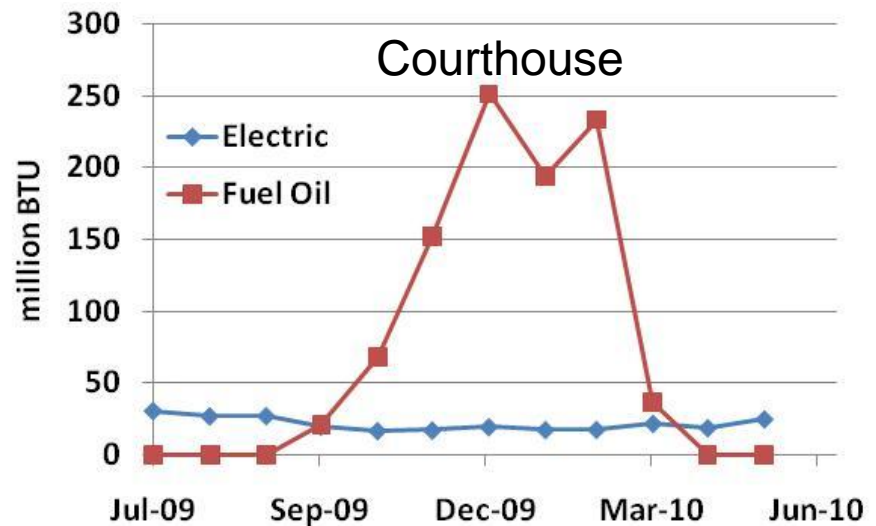
Plan establishes priorities and responsibilities

Example 2

ENERGY AUDIT

Collect and Analyze Utility Data

- Review if utility rate schedule is most economical
- Compare energy use (kBTU/ sq ft) with index for similar building use
- Review seasonal variation



Atypical usage suggests issues needing further investigation

Example 2

ENERGY AUDITS (cont.)

Site Visit – 2- to 3-hour walk through looking at:

Building
Envelope



Heating
And
Cooling



Lighting

Equipment



Identify improvements with biggest impact

Example 2

ENERGY AUDITS (cont.)

Courthouse Report (14 pages)

Summary of utilities and energy use index

Identify items needing improvement or replacement

Recommendations with estimated annual savings

No Cost or Low Cost - Payback typically 1 year

Install programmable thermostats - \$1243

Delamp vending machines - \$59

Moderate Cost - Payback typically 2 to 4 years

Insulate steam pipes - \$631

Seal leaky windows - \$1077

Replace inefficient fluorescent tube and ballasts

Capital improvement – Payback varies

Install interior storm windows - \$2154

Audit guides allocation of labor and expenses

Example 3

STAFF TRAINING

20 Minute Presentation to County Department Heads

County Energy Use
Energy Policy and Strategic Plan

15 Minute Presentation at Annual County Staff Meeting

County Energy Use
Energy Policy and Strategic Plan
How Staff Can Contribute
What did Henderson County accomplish?

Henderson County electricity, natural gas and gasoline consumption dropped 6.5 percent during the last six months of 2008 by staff monitoring lighting, heating and driving (Times-News, *January 23, 2009*)

Example 3

STAFF TRAINING (cont.)

Presentation at Annual County Staff Meeting



One light switch in County Courthouse

- Controls 4 fixtures drawing 0.5 kW
- Turned on 56 hours in one week – about 2800 hours per year
- Costs \$94 per year

***Turning switch off for 1 hour per day
would save \$8 per year***

Little steps add up to big savings when the entire staff contributes

Example 3

STAFF TRAINING (cont.)

Presentation at Annual County Staff Meeting



Conservation doesn't mean being uncomfortable !

Conservation works best with a little effort from everyone !



Can Madison County Save \$25,000?

Example 4

PROJECT DEFINITION FOR GRANT FINANCING

Proposal Assistance to Madison County

- Energy audits identified critical improvement at county and town facilities.
- Helped prepare Strategic Energy Plan required by NC State Energy Office.
- Auditors made preliminary estimates of costs.
- Worked with utilities to identify matching funds.
- Provided technical project description for proposal.

WRP can assist with internal projects as well

Example 4

PROJECT DEFINITION FOR GRANT FINANCING

(cont.)

NC ENERGY EFFICIENCY GRANT

Joint effort of Madison County, Marshall and Mars Hill

From State Energy Office	\$144,718
Madison County and French Broad EMC	\$ 14,029
Total project investment	\$158,746

Madison receiving \$60,600 for:

Lighting Upgrades

County Courthouse	Administration and DSS
Cooperative Extension,	Main Library
Beech Community Center	Community Services
Sprinkle Shelton Building	911 and Mental Health

Building Improvements

Madison County Courthouse - window repair, interior storm windows and insulation for the exposed steam pipes

Successful proposal for complex project

WRP Can Help Make It Happen

Having trouble getting an energy saving project started?

Waste Reduction Partners can help:

- On-site energy assessment
- Helping define project and approach
- Internal energy plans
- Resource information:

www.wastereductionpartners.org

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