Cook County and Grand Marais
Energy Conservation and Renewable Energy Plan

Prepared by:

The Cook County/Grand Marais Energy Plan Committee

Submitted to the Grand Marais City Council
and Cook County Commissioners for adoption

July 11, 2012

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Executive Summary

In the summer of 2010, the Cook County Board, the City of Grand Marais, and the Cook County Local Energy Project (CCLEP) formed a partnership to develop a voluntary Energy Conservation and Renewable Energy Plan (Energy Plan) pertaining to both the City and the County. The purpose of this project is to better prepare our community for the challenges, and opportunities, of a rapidly changing energy environment. More specifically, implementation of this Energy Plan should benefit our community by:

- Retaining energy dollars in our local economy.
- Creating jobs.
- Improving quality of life for Cook County citizens through more comfortable, less-costly, energy efficient housing.
- Buffering our community from the effects of unstable energy supply and pricing.
- Decreasing our community's contribution to the harmful environmental and climatic effects of fossil fuel use.
- Decreasing our nation's dependence on foreign oil.
- Increasing social equity and social justice by shifting wealth and power into the hands of local citizens and their local utilities.

The **Vision** driving development of the Energy Plan is to make Cook County and Grand Marais a more energy conscious community and a leader in energy efficiency and renewable energy with both the County and City working continuously and methodically towards an ultimate goal of energy independence. The **Mission** of the Energy Plan development process is to engage the community in an open, inclusive, and public process to create a living document to guide Cook County and the City of Grand Marais – their governments, businesses, and residents – to make educated decisions with regard to energy conservation and renewable energy projects.

PLAN DEVELOPMENT: Development of the Plan was overseen by an **Energy Plan Committee** whose members included a wide spectrum of Cook County and Grand Marais stakeholders. Grant dollars received from the Minnesota Office of Energy Security allowed inclusion of an Energy Consultant Team in the planning process. The Energy Plan Committee met frequently, once or twice per month, between December of 2010 and May of 2012 to develop the Plan. The critical result of this process, and the most useful part of this Plan, is a set of Goals, Strategies, and Action Steps designed to guide our community towards more sustainable energy production and usage.

Multiple processes were used to gather the information used to formulate the Plan. A **Public Input Process** was used both to gather public attitudes and conceptions, and to offer an avenue for public involvement. It was divided into three components in order to reach out to as many community members as possible: An online survey, a random telephone survey, and two "Energy Summits" held in May of 2011 – one in Tofte and one in Grand Marais.

The public input process revealed widespread concern by Cook County residents about energy issues especially energy costs and environmental impacts. A large majority of residents were in favor of increased energy efficiency and renewable energy development, and a similar majority was in favor of local governmental action to facilitate that development. Results also showed that economic considerations are a big driver in making energy efficiency and renewable energy investments.

Energy Profiles describing energy consumption by fuel source and usage sector were developed using data collected from Arrowhead Electric, Grand Marais PUC, local propane and fuel oil providers, and the U.S. census. The profiles indicate that the City and County use approximately 603,000 MMBtu/yr at an annual cost of approximately $14,500,000. Energy use is fairly evenly split between the commercial and residential sectors. Plan implementation will be balanced to show equal efforts in both sectors.

An **Energy Toolbox** containing a variety of informational resources was developed to assist in the implementation of the Energy Plan. The resources were divided into the following categories:

- Technical, educational, and financial resources
- Potential implementation partners
- Local energy efficiency and renewable energy demonstration sites
- On-going energy efficiency and renewable energy based projects
- Examples of energy use analyses/energy audits of residential, commercial and public buildings.

GOALS, STRATEGIES, AND ACTION STEPS: Information gleaned during the Plan development process was used to set forth a comprehensive, prioritized list of possible energy efficiency and renewable energy activities. These are organized into Goals, Strategies and Action Steps that provide our community with a framework for methodical, step-by-step progress toward more sustainable energy production and usage.

Goals, Strategies, and Action Steps are defined as follows:

- Goal – A broadly defined objective.
- Strategy – A plan or path toward achieving a set goal.
- Action Step – A specific step toward executing a set strategy.

The 10 goals of the Plan, in order of priority, are:

1. Demonstrate leadership and commitment to energy planning and development.
2. Increase public awareness and engagement regarding energy issues through education.
3. Optimize energy efficiency in the residential sector.
4. Optimize energy efficiency in the public and institutional sectors.
5. Optimize energy efficiency in the commercial sector.
6. Optimize clean, local, renewable energy development.
7. Promote land use practices that optimize energy efficiency.
8. Promote energy efficient transportation.
9. Promote an energy efficiency and renewable energy business sector.
10. Promote and enhance water conservation and waste reduction.

The principal mechanism for implementing the Energy Plan is for both the City and County to formally designate CCLEP as an advisory committee charged with Plan implementation. With representation from the City Council and the County Board, CCLEP will take the lead in implementing projects and programs, and recommending action to be taken by the City and/or County. All local governmental action and funding will require approval from the appropriate local governing body.

Of course, the true measure of success of this Plan will be the extent to which this voluntary Plan is accepted and incorporated into our community's culture. Hence, the Plan was designed with education as the primary force in making progress towards achieving our stated vision. Real, effective implementation of this Energy Plan will come through a prolonged and diligent process of community education.

PLAN DEVELOPMENT

Development of the Plan was overseen by an Energy Plan Committee whose members included a wide spectrum of Cook County and Grand Marais stakeholders. Grant dollars received from the Minnesota Office of Energy Security allowed inclusion of an Energy Consultant Team in the planning process. The Energy Plan Committee met frequently, once or twice per month, between December of 2010 and May of 2012 to develop the Plan. The critical result of this process, and the most useful part of this Plan, is a set of Goals, Strategies, and Action Steps designed to guide our community towards more sustainable energy production and usage.

The approach for gathering information to be used in developing the Energy Plan was concentrated in 4 major tasks:

1. Development of an Energy Plan Committee (EPC)
2. Solicitation of Public Input
3. Creation of County and City Energy Profiles
4. Development of an Energy Toolbox

Each will be discussed individually below.

Energy Planning Committee (EPC): The charter of the EPC was to oversee the development of the Plan. It consisted of Cook County residents selected to represent a broad range of community interests and perspectives, a local coordinator, and an Energy Consultant Team. Participation on the committee was open to all County residents and was publicized by ads and press releases in the local newspapers, public service announcements on the local radio station, and postings on community-based websites. Committee members are listed in Table 1 and included representation from local government agencies, businesses and residents. The committee met frequently, once or twice per month, during the 18 months during which the plan was developed.

Table 1: Energy Plan Committee Members

George Wilkes	CCLEP, Chair, Local business owner
Don Grant	CCLEP, Energy Plan Coordinator
Tim Kennedy	Grand Marais City Council, Grand Marais Public Utility Commission
Mike Roth	Grand Marias City Administrator
Jim Johnson	Cook County Commissioner
Fritz Sobanja	Cook County Commissioner
Jessica Burdette & Matt Haley	Energy Management Solutions, Energy Consultants
Virginia Danfelt	CCLEP Coordinator
David Demmer	Cook County Planning and Zoning
Chris Norman	Energy Auditor, Builder
Jeff Kern	Grand Marais Resident
Jessa Frost	North House Folk School, Tofte resident
John Bottger	Cook County Firewise, Gunflint trail resident
Melinda Spinler	Grand Marais Business Owner
Stephen Holz	Energy Auditor, Builder
Dean Talbott	Energy Consultant, Duluth, MN
George Crocker	Energy Consultant, North American Water Office

Public Input: Public input was gathered to better understand community attitudes concerning energy issues, and to encourage the public to participate in the plan development process. Three tools were used to reach out to as many community members as possible: a random telephone survey, an on-line survey, and 2 "Energy Summit" public meetings.

The surveys included a list of 28 questions to solicit information concerning awareness of energy issues, attitudes toward energy issues, and what respondents had done to address these issues. The telephone survey was designed to give unbiased results and was given to 55 residents selected at random. The on-line survey was performed to collect anecdotal information from as many residents as possible; 86 responses were received. The on-line surveys were also distributed to users of the Cook County Food Shelf to solicit input from lower-income County residents. Nine responses were received. The relatively small number of responses, 150, was insufficient to represent a statistically valid sample so the survey results represent only a rough estimation of public opinion.

The survey responses were analyzed in multiple groupings to glean if there were differences between the responses of residents by education or income. The results of the on-line survey and food shelf survey were combined in the analysis.

The Energy Summits were held in Grand Marais and Tofte in May 2011. They consisted of a short (approximately 15 minute) presentation of the Energy Planning process followed by a 2 hour question and answer period. A total of 19 people attended the Summits.

The analysis of the survey results is presented in detail in Appendix B. A few of the major findings are included here in the body of the report.

The survey indicated that the community is very concerned about energy; especially energy costs and environmental impacts. When polled on national issues of most concern, energy ranked first with 70% of the respondents selecting very concerned (Figure 1). Virtually all respondents were concerned or very concerned with the cost of energy while more than 90% were concerned or very concerned about environmental issues (Figure 2).

In the graphs that follow the legends represent the following:

Legend Title	Grouping
OL - All	On-line survey; all responses
OL – Less Ed	On-line survey; < 4 years post-secondary education
OL – More Ed	On-line survey; 4 or more years post-secondary education
OL – Lower Inc	On-line survey; <$50,000 annual income
OL – Higher Inc	On-line survey; >$50,000 annual income
Telephone	Random telephone survey

Government leadership toward better energy utilization was viewed favorably. Approximately 80% of the respondents believe that government should be taking steps to address energy planning (Figure 3) and a majority support increased regulatory standards for increased energy efficiency (Figure 4).

Respondents overwhelmingly viewed movement toward use of renewable energy as very favorable (Figure 5) and indicated a willingness to pay a premium of about 6% for renewable energy (Figure 6).

Cost was seen as a big driver in making energy efficiency improvements. Educational programs and incentives toward improving energy efficiency were viewed favorably.

The responses of the different groups were similar with a few relatively minor exceptions. The telephone respondents and those with less formal education were more concerned with national security and dependence on foreign energy sources than with environmental issues and were less supportive of using government action to resolve energy issues. They were willing to pay a smaller premium for renewable energy than those with more formal education. Those with lower income were also willing to pay a smaller premium for renewable energy.

Figure 1: Please choose whether you are not at all concerned, somewhat concerned or very concerned about each of the following issues

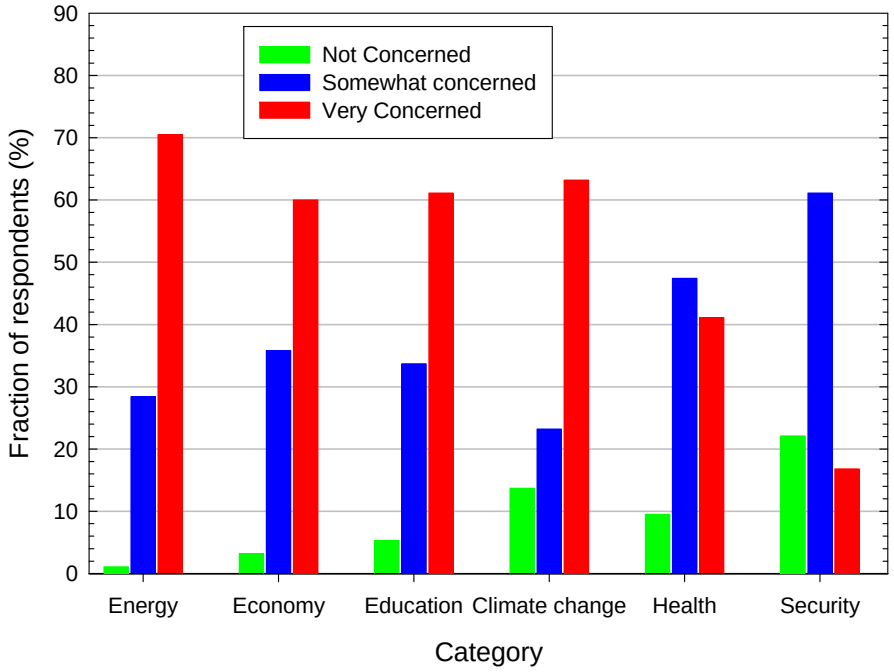


Figure 2: If you are concerned about energy issues, which of the following issues concerns you the most?

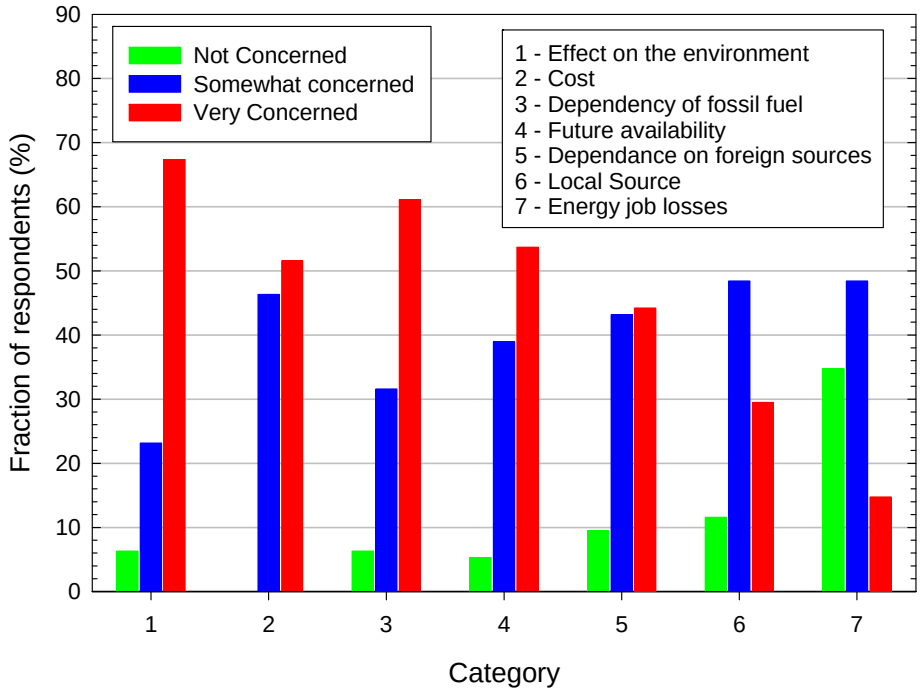


Figure 3: Do you think your local government should be taking steps to address energy planning?

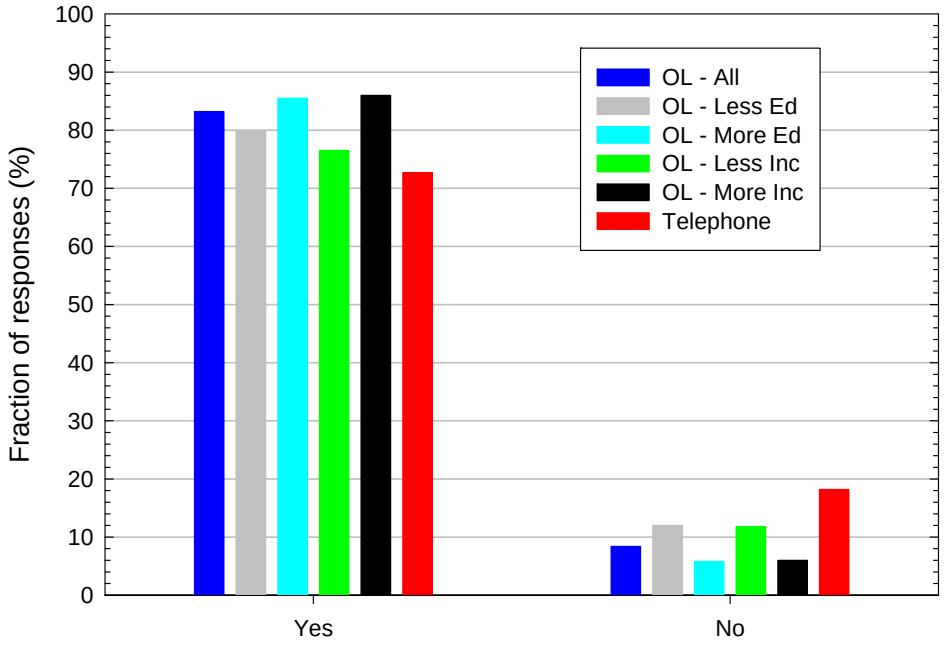


Figure 4: How do you feel about increasing regulatory standards to require vehicles, buildings, and equipment to use energy efficiently?

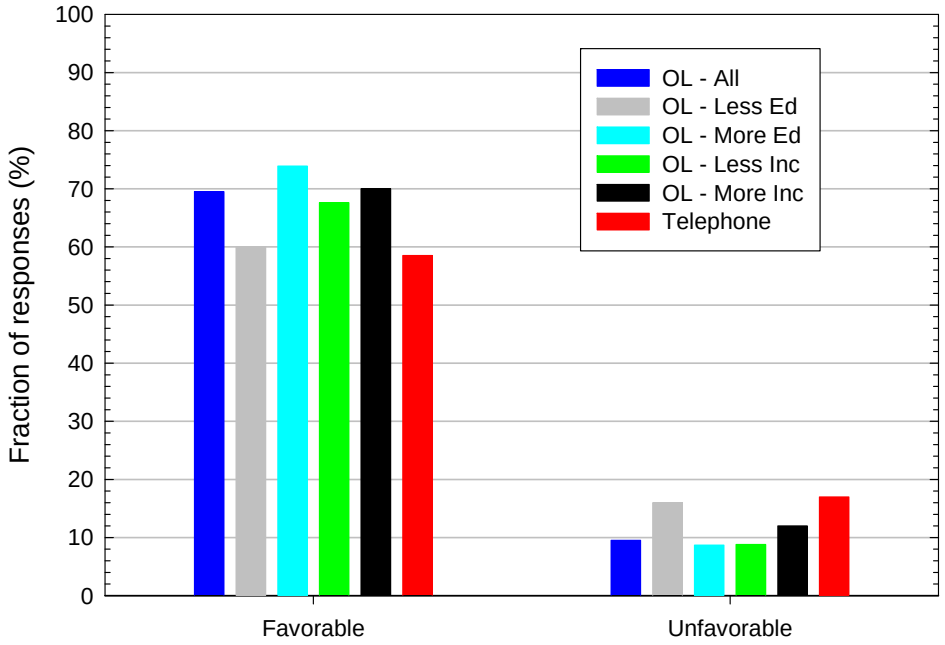


Figure 5: How do you feel about moving toward more use of renewable energy sources, such as wind, solar, and biomass?

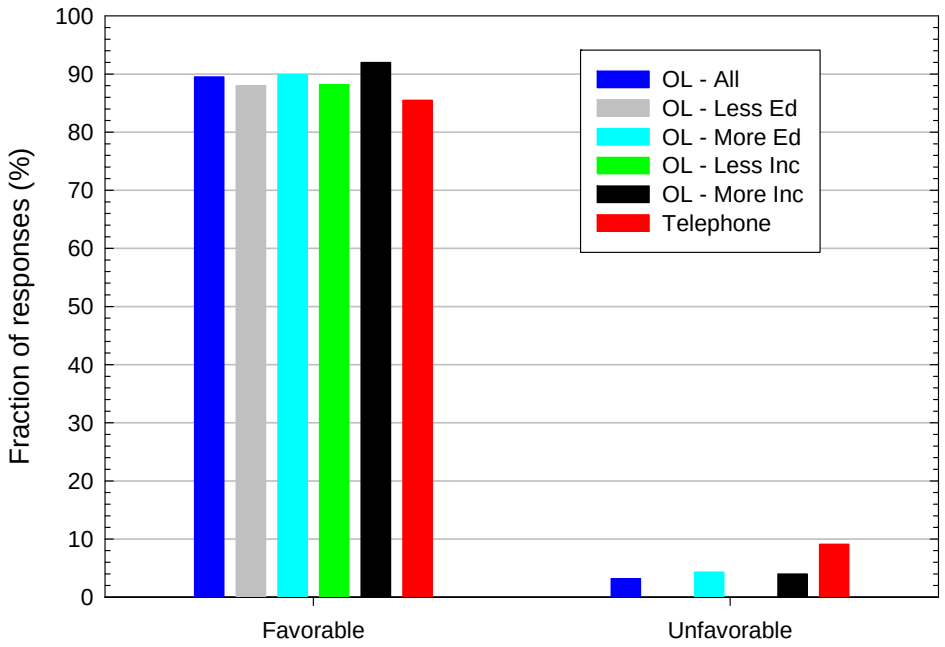
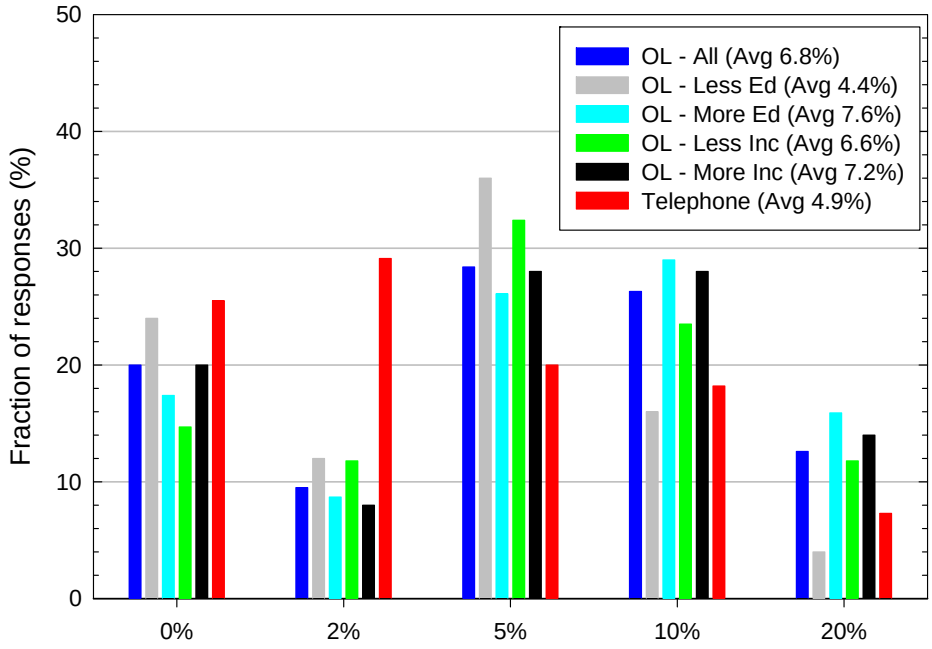


Figure 6: What premium would you be willing to pay for renewable energy sources?



Energy Profiles: Energy profile information was gathered for both Cook County and Grand Marais showing how, where, and how much energy is currently being used. This information was used to develop and prioritize the Plan's Goals, Strategies and Action Steps, and will be useful for measuring Energy Plan progress, and changes in energy use over time.

Figures 7 through 13 feature pie-charts showing energy use by source (e.g. electricity, propane, fuel oil) and by sector (e.g. residential, governmental, hospitality). Information used to prepare these pie-charts was based on the year 2010 and was obtained from the sources listed in Table 2.

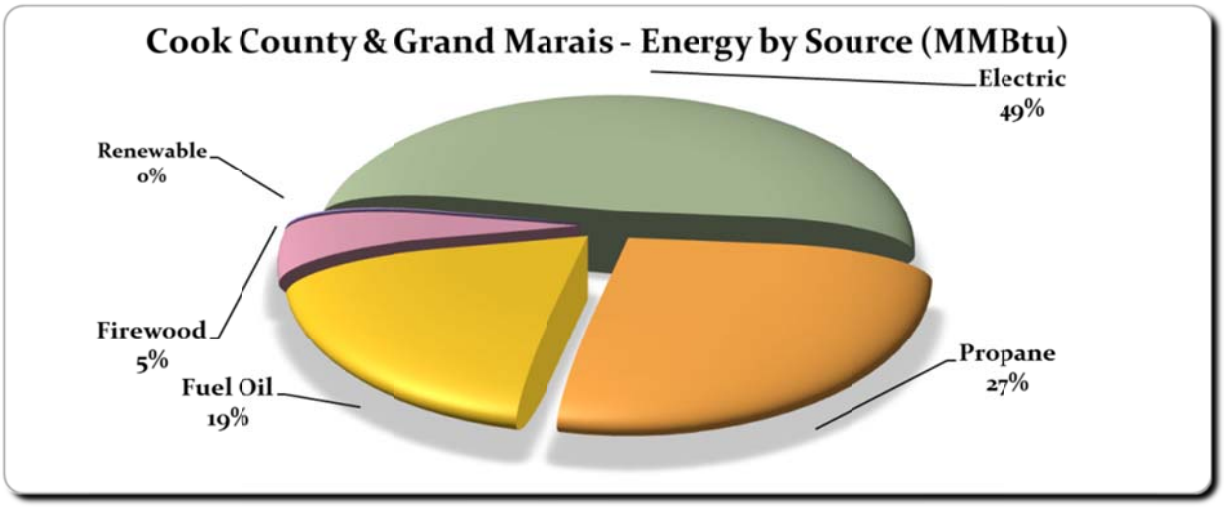
Table 2: Energy profile informational sources

Fuel	Source of information
Electricity	• Grand Marais Public Utilities • Arrowhead Electric Cooperative
Propane	• Como Oil and Propane • Superior Fuel Company • North Shore Oil and Petroleum • 2010 Census data
Fuel Oil	• Como Oil and Propane • Superior Fuel Company • North Shore Oil and Petroleum • 2010 Census data
Firewood	• Gary Atwood, Biomass Energy Coordinator • Energy Plan Survey
Renewables	• Outback Solar Electric

Key energy usage findings include:

- Approximately one half of all energy usage is from electricity.
- Approximately one half of all electrical usage is residential.
- Propane and fuel oil usage are similar.
- The hospitality industry is a large energy consumer.

Figure 7: Cook County & Grand Marais Energy Usage by Source (MMBtu)



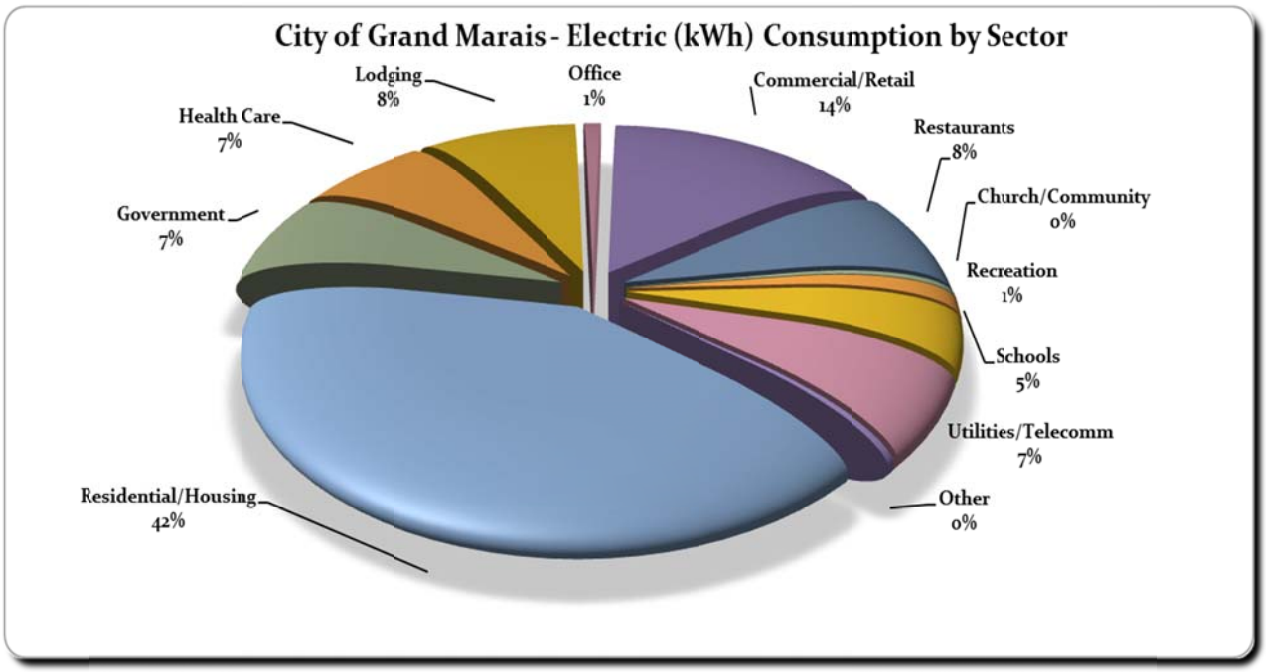
Consumption Information

Fuel Source	MMBtu	Energy	Unit	Tons/CO_2
Electric	292,500	85,701,766	kWh/Year	59,991
Propane	164,282	1,793,472	Gall/Year	11,389
Fuel Oil	113,228	838,724	Gall/Year	9,394
Firewood	31,810	1,271	Cords/Year	n/a
Solar / Wind	1,535	n/a	n/a	n/a

Total:	**603,355**

Energy data were collected through the various electric, propane and fuel oil providers and additional related studies in Cook County and Grand Marais. Brian Bennett from Outback Solar Electric provided data on the renewable energy consumption.

Figure 8: Grand Marais Public Utility Commission Electric Use by Sector

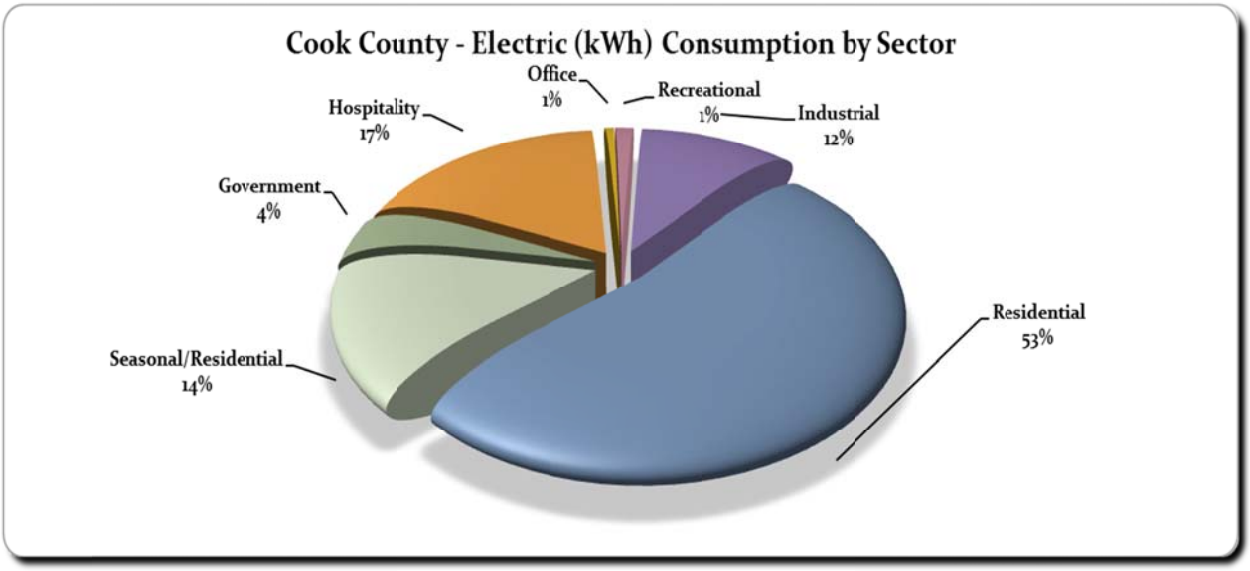


Consumption Information

Sector	kWh	MMBtu	Tons/CO_2
Government	1,511,638	5,159	1,058
Health Care	1,397,995	4,771	979
Lodging	1,722,031	5,877	1,205
Office	188,230	642	132
Commercial/Retail	3,073,846	10,491	2,152
Restaurants	1,646,550	5,620	1,153
Church/Community	87,620	299	61
Recreation	284,273	970	199
Schools	957,356	3,267	670
Utilities/Telecomm	1,446,131	4,936	1,012
Other	83,709	286	59
Residential	8,881,928	30,314	6,217
Total:	**21,281,307**	**72,633**	**14,897**

Electric consumption data provided by Grand Marais Public Utilities (SMMPA). It is based on annual (12 month) consumption (kWh) from January - December 2010.

Figure 9: Arrowhead Electric Cooperative Use by Consumption Sector

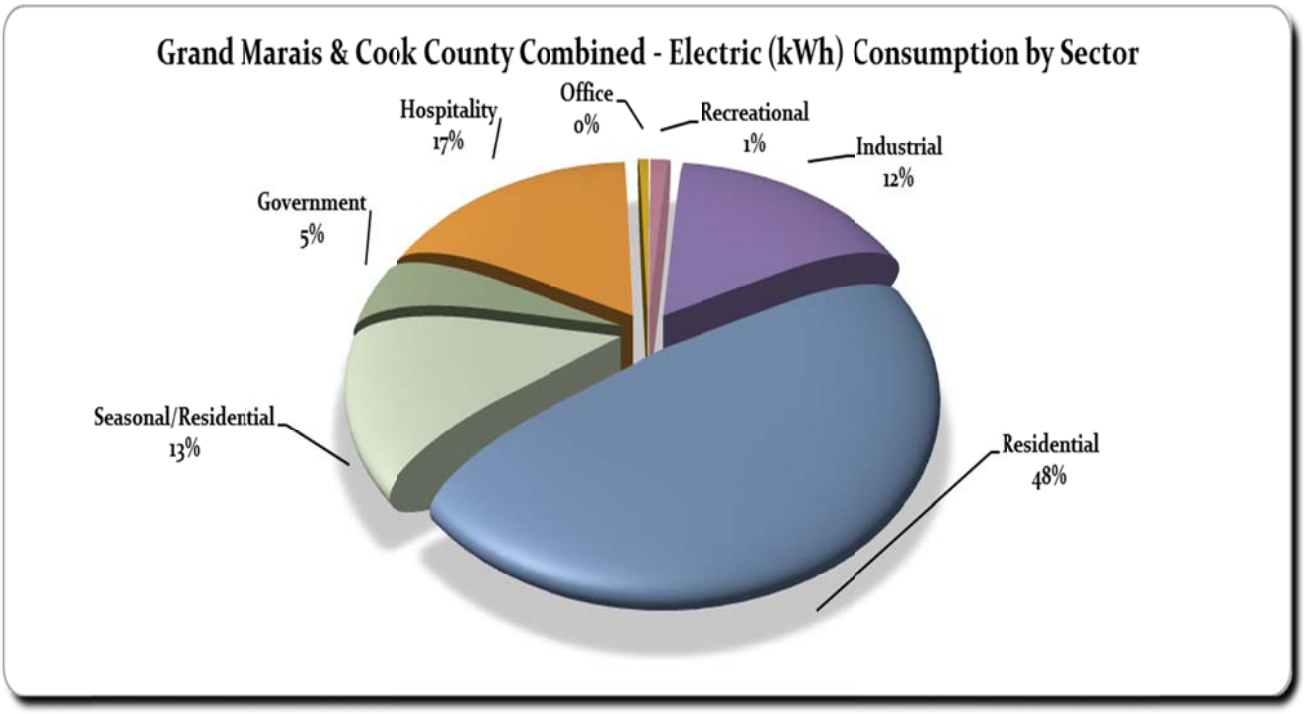


Consumption Information

CO_2
1,881
7,684
274
538
4,637
23,736
6,344
45,094

*Electric consumption data provided by Arrowhead Electric Cooperative. It is based on annual (12 month) consumption (kWh) from January - December 2010.

Figure 10: Arrowhead and Grand Marais PUC Electric Use by Consumption Sector

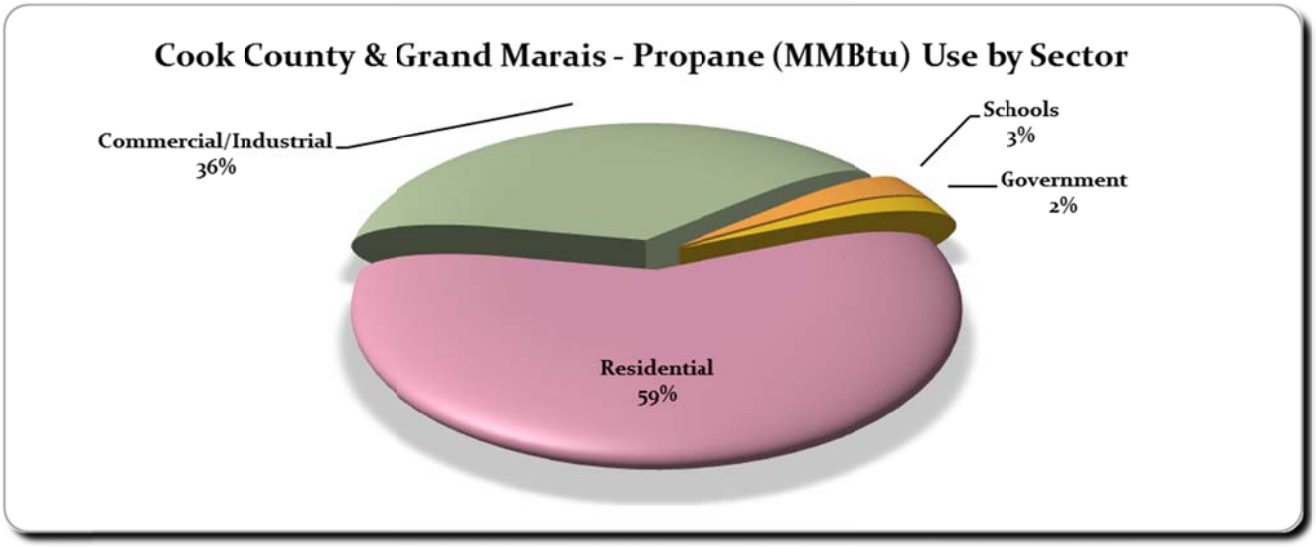


Consumption Information

Sector	kWh	MMBtu	Tons/CO_2
Government	4,198,670	14,330	2,939
Hospitality	14,345,784	48,962	10,042
Office	579,123	1,977	405
Recreational	1,052,937	3,594	737
Commercial/Industrial	13,671,477	46,661	9,570
Residential	40,917,316	139,651	28,642
Seasonal/Residential	10,936,459	37,326	7,656
Total:	**85,701,766**	**292,500**	**59,991**

- Electric consumption data provided by Arrowhead Electric Cooperative. It is based on annual (12 month) consumption (kWh) from January - December 2010.
- Electric consumption data provided by Grand Marais Public Utilities (SMMPA). It is based on annual (12 month) consumption (kWh) from January - December 2010.

Figure 11: Propane Use by Sector for Cook County and Grand Marais Combined

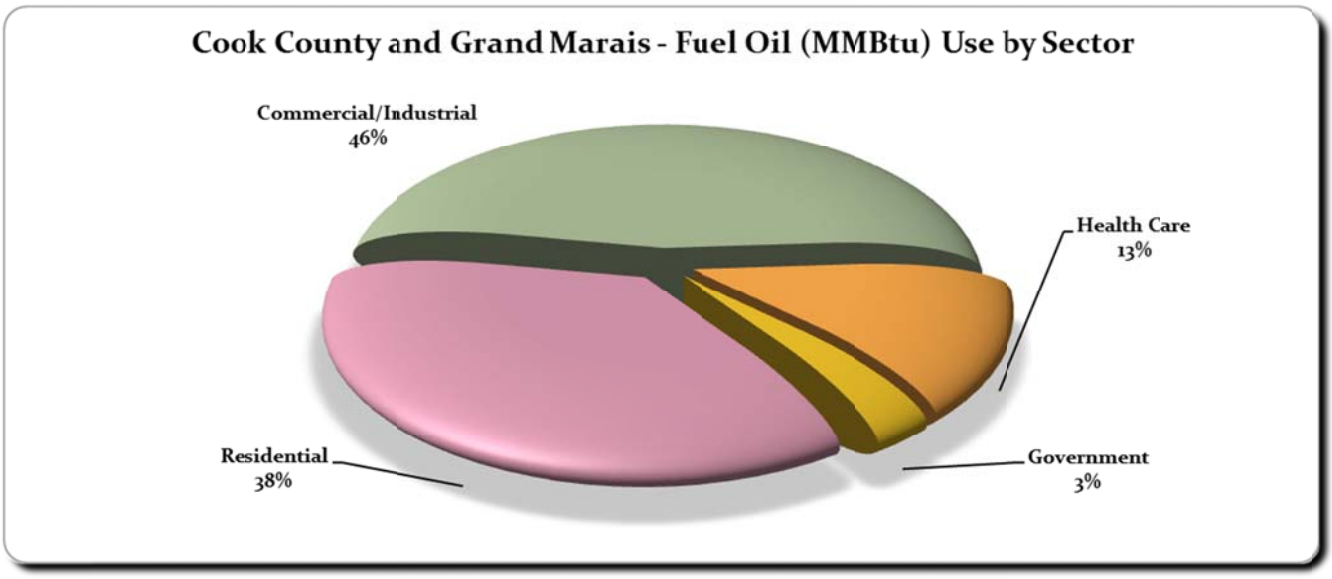


Consumption Information

Sector	MMbtu	Gallons	Tons/CO_2
Commercial/Industrial	59,768	652,489	4,143
Schools	4,611	50,339	320
Government	3,320	36,244	230
Residential	96,583	1,054,400	6,695
Total:	**164,282**	**1,793,472**	**11,389**

*Propane information received from local propane suppliers and US Census Data results.

Figure 12: Fuel Oil Use by Sector for Cook County and Grand Marais combined

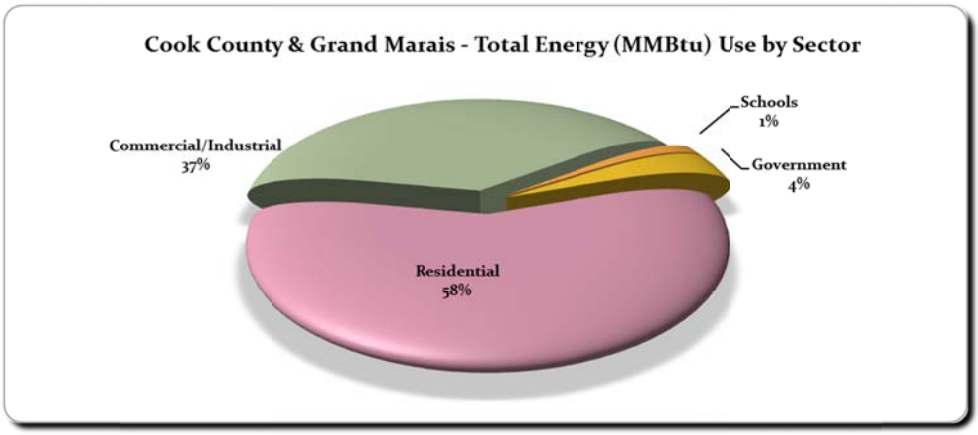


Consumption Information

Sector	MMbtu	Gallons	Tons/CO_2
Commercial/Industrial	52,327	387,608	4,341
Health Care	14,842	109,940	1,231
Government	3,534	26,176	293
Residential	42,525	315,000	3,528
Total:	**113,228**	**838,724**	**9,394**

*Fuel oil information received from local fuel oil suppliers and US Census Data.

Figure 13: Total Energy Use by Sector – Cook County and Grand Marais Combined



Consumption Information

*note CO_2 totals exclude solar, wind and wood

Included in the energy profiling process was an estimate of annual County-wide expenditures for retail energy in 2010. Total expenditures were approximately $13.3 million as shown in Table 3 - a significant expenditure for a County of this size and population. Energy prices have increased between 2010 and February 2012 (Table 4); electrical costs have increased approximately 7% while propane and fuel oil costs increased approximately 12%. These increases imply that County expenditures were approximately $14.5 million in 2012 if consumption remained unchanged. Future energy rates are expected to rise significantly; increasing 2- to 4-fold by 2030 (Figure 14).

These high and increasing costs indicate a significant economic opportunity for energy efficiency and renewable energy development in Cook County. In addition, the energy price projections suggest that investments in energy efficiency and renewable energy are likely to increase in cost-effectiveness over time.

Table 3: Estimated Total County Energy Expenditures in 2010

Fuel Type	Fuel Usage		Estimated Cost per unit*	Estimated Annual cost
	Amount	Units		
Electricity	85,700,000	kW-hrs/yr	$ 0.075	$ 6,427,500
Propane	1,793,000	gallons/year	$ 2.06	$ 3,692,146
Fuel Oil	839,000	gallons/year	$ 3.61	$ 3,027,112
Firewood	1,270	cord/year	$ 110.00	$ 139,700
			TOTAL	**$ 13,286,458**

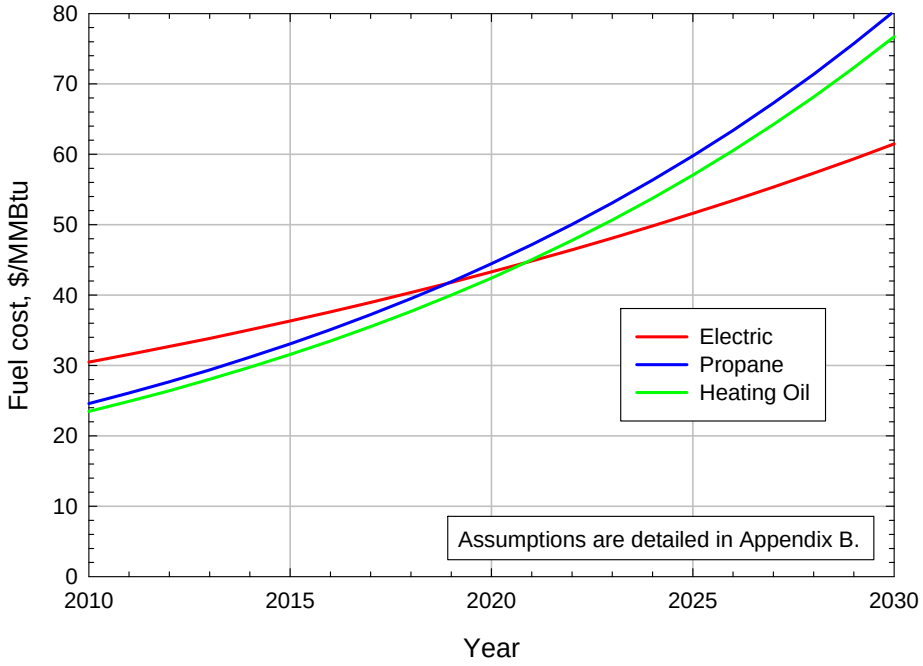
* Assumptions detailed in Table B5 in Appendix B.

Table 4: Energy Costs in Cook County in February 2012

Residential rates (unless noted)	Units	Cook County Price February 2012
Fuel Oil	Gallon	$4.100
LP – Propane	Gallon	$2.340
Electric – Firm – Arrowhead*	kWh	$0.113
Electric – Off Peak – Arrowhead*	kWh	$0.046
Electric – Dual Fuel Interruptable – Arrowhead*	kWh	$0.057
Electric – Firm – GM PUC*	kWh	$0.095
Electric – Off Peak – GM PUC*	kWh	$0.051
Electric – Dual Fuel – GM PUC*	kWh	$0.068

* does not include surcharges

Figure 14: Energy Price Projections



Energy Toolbox: An **Energy Toolbox** containing a variety of informational resources was developed to assist in the implementation of the Energy Plan. These resources are divided into the following categories:

- Technical, educational, and financial **resources**
- **Potential implementation partners**
- Local energy efficiency and renewable energy **demonstration sites**
- **On-going energy efficiency and renewable energy based projects**
- Examples of **energy use analyses/energy audits** of residential, commercial and public buildings.

The first set of **resources** is a listing of organizations and programs that could be used to help implement the Energy Plan through technical, educational or financial assistance. The resources are referenced by Action Step and listed in Table B1 in Appendix B.

The **potential implementation partners** are local organizations and individuals that could be used to help implement the energy plan. The organizations identified and the resources they can provide are listed in Table B2.

A list of buildings in the County that use energy efficiently and/or incorporate renewable energy technologies that could be used as **demonstration sites** during Energy Plan implementation was compiled. Owners of buildings that were known to be energy efficient and/or to incorporate renewable energy technologies were contacted to see if they would be willing to have their buildings serve as demonstration sites. In addition, a general request for participation was sent to the community via newspaper announcement, radio public service announcement and on-line posting at boreal.org.

The sites identified are listed in Table B3. The sites listed include examples of energy efficient new construction, building energy efficiency upgrades, lighting upgrades, photovoltaic systems, solar hot water systems, wind systems, performance contracts, and passive solar design.

Five **on-going energy efficiency and renewable energy based projects** were identified – 2 energy efficiency projects and three renewable energy projects. The energy efficiency projects are the Conservation Improvement Programs (CIPs) administered by the Grand Marais Public Utility Commission and Arrowhead Electric Cooperative.

The three renewable initiatives include one project based on biomass and two based on wind power. The biomass project is a two-part study of the technical and financial aspects of using forest biomass as an energy source in Cook County. The two-part study is expected to provide county residents with information about the impacts of biomass energy on local energy security and costs, utilization of wood waste and reduction of fire risk, and stewardship of regional forests, water and air quality, greenhouse gas emissions, and local economies.

The first phase of the study has been completed. It addresses the availability of forest biomass for energy production in Cook County; options for biomass combustion technology for small, medium, and large systems; and financial implications of converting to biomass energy in various Cook County settings. A copy of the Phase I report Executive Summary is included in Appendix C.

The second phase of the study will provide additional information on biomass supply issues and impacts. It will assess life cycle impacts of biomass energy systems, including environmental impacts, and assess stakeholder and community attitudes about expanded conversion to these systems. The Phase II study will also address the long-term viability of biomass energy in the county and recommendations for next steps. It is expected to be completed by December 2012.

Some preliminary efforts to determine the feasibility of utility-scaled wind power in Cook County have occurred in past few years. From 2007 through 2008, the Center for Sustainable Community Development (CSCD) monitored wind speeds at several locations along Minnesota's North Shore, and in 2008 published a wind resource map for the North Shore (Figure D1 in Appendix D, Footnote 1). The CSCD's map shows significant potential for economically feasible wind power development at higher elevations within Cook County.

In 2009-2010, CCLEP received a grant from the NE MN Sustainable Development Partnership to contract with CSCD to do additional wind speed monitoring in Cook County. The effort is on-going.

In a related effort, a bird migration study was undertaken by the Natural Resources Research Institute to assess the possible detrimental effects of locating wind turbines in the North Shore bird migration corridor. The study suggests that wind turbines located in Cook County, especially within 1 mile of the shore, might result in significant bird mortality (Footnote 2).

The most thorough effort to develop a utility-scaled wind power in Cook County has been initiated by the Grand Portage Band. They have monitored wind speed at Mount Maude for several years and in 2008 conducted a feasibility study with Citizens Energy for a large-scale wind power development of between 20 and 30 utility-scale wind turbines. That effort did not progress largely because of a lack of adequate transmission lines. Currently, the Grand Portage Band is considering a smaller installation of 1 or 2 wind turbines in the Mount Maude area.

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1. Mageau, MT., B Sunderland and S Stark. Wind Resource Development in the Minnesota Coastal Zone. DNR Coastal Zone Program, Final Report (2008).
2. 2. Peterson A, and GJ Niemi. "Development of a Comprehensive Conservation Strategy for the North Shore Highlands Region of Minnesota in the Context of Future Wind Power Development," Natural Resources Research Institute technical report number: NRRI/TR-2012/13 (December 31, 2011).

Energy use analyses/energy audits were collected and performed to serve as examples during plan implementation as to how energy utilization can be improved by building energy efficient structures, improving existing structures, incorporating renewable energy sources, etc. An example of a recently performed residential audit is included in Appendix B. The example includes recommended improvements along with estimated costs to make the improvements and expected annual savings if the improvements are made.

Examples of energy analyses on commercial buildings were obtained by performing audits on three commercial properties in Cook County: Bearskin Lodge, Trail Center Lodge and Clearview Store. These properties were deemed to be representative of many commercial facilities in the County. The audits included analysis of energy use patterns, recommendations, and a list of recommended improvement projects including conservation improvements, load control opportunities, supply issues and energy optimization. Copies of the audit reports are included in Appendix B. Table B4 in Appendix B contains a sample summary from a commercial energy assessment. When a customer has a full complete assessment it is best to present the data clearly and concisely. Having a one page summary is a nice way to show each of the measures as well as their corresponding energy savings, cost savings, estimated implementation cost, payback and if there are any known rebates available. A customer can quickly look down this table to see where they want to focus their efforts.

Examples of audits focused on energy savings from upgrading HVAC systems in public buildings were obtained from the County. Examples for the Cook County Courthouse and Law Enforcement Center can be found in Appendix B.

Another example of public building energy efficiency improvement was a lighting upgrade of Grand Marais public buildings. In this project T-12 light fixtures were replaced with T-8 fixtures in the following buildings: City Hall, Water Treatment Plant, Waste Water Treatment Plant, Park Office, Rec Hall and Shop, Park Bath Houses and Fish Cleaning Station. A total of 202 fixtures were replaced. The project resulted in an electrical load reduction of 10.4 kW and an estimated annual savings of 24,600 kW-hrs and $2,340. The total project cost was $14,774 on which the City received a $4,757 conservation improvement program rebate and a $6,865 Minnesota Office of Energy Security grant. The projected simple payback period for the project is < 2 years.

GOALS, STRATEGIES AND ACTION STEPS

Information gleaned during the Plan development process was used to set forth a comprehensive, prioritized list of possible energy efficiency and renewable energy activities. These are organized into Goals, Strategies and Action Steps that provide our community with a framework for methodical, step-by-step progress toward more sustainable energy production and usage.

Goals, Strategies, and Action Steps are defined as follows:

- Goal – A broadly defined objective.
- Strategy – A plan or path toward achieving a set goal.
- Action Step – A specific step toward executing a set strategy.

The goals and strategies are prioritized from highest to lowest according to their position in the Plan. Action Steps are prioritized by a ranking of 1 to 3, with a 1 being the highest priority. The criteria used for prioritization are as follows:

- Economic feasibility.
- Greatest effect in terms of multiple community benefits.
- Ease of implementation.
- Community acceptance.

Similarly, an estimated timeframe was assigned to each Action Step:

- Short term – less than 1 year
- Mid term – 1-3 years
- Long term – greater than 3 years
- On-going

The prioritizations and timeframe assignments are intended to provide general guidance for the implementation of this Plan, and should not be considered definitive or rigidly prescriptive. Also, there should be some balance in the prioritization process so that lower priority goals are not completely ignored.

As detailed later in Goal #1, the principal mechanism for implementing the Energy Plan is for both the City and County to formally designate CCLEP as an advisory committee charged with Plan implementation. With representation from the City Council and the County Board, CCLEP will take the lead in implementing projects and programs, and recommending action to be taken by the City and/or County. All local governmental action and funding will require approval from the appropriate local governing body.

Of course, the true measure of success of this Plan will be the extent to which it is accepted and incorporated into our community's culture. Hence, the Plan was designed with education as the primary force in making progress towards achieving our stated vision. Real, effective implementation of this Energy Plan will come through a prolonged and diligent process of community education.

List of Goals

1. Demonstrate leadership and commitment to energy planning and development.

2. Increase public awareness and engagement regarding energy issues through education.

3. Optimize energy efficiency in the residential sector.

4. Optimize energy efficiency in the public and institutional sectors.

5. Optimize energy efficiency in the commercial sector.

6. Optimize clean, local, renewable energy development.

7. Promote land use practices that optimize energy efficiency.

8. Promote energy efficient transportation.

9. Promote an energy efficiency and renewable energy business sector.

10. Promote and enhance water conservation and waste reduction

T – Additional reference information in Table B1 of the Energy Toolbox.

Goal 1: Demonstrate leadership and commitment to energy planning and development.

Strategy	Action Step	Priority	Timeframe
1.1 Obtain local government endorsement of the Energy Plan.	1.1.a. Adopt the Plan via resolutions by the Cook County Commissioners and Grand Marais City Council.	1	Short-term
	1.1.b. Consider including the Energy Plan as an addendum to Cook County Land Use Plan and the Grand Marais Comprehensive Plan.	3	Long term
1.2 City and County formally designate Cook County Local Energy Project (CCLEP) as the advisory committee charged with implementing the Energy Plan.	1.2.a. Obtain CCLEP Board endorsement.	1	Short-term
	1.2.b. Designate representatives from the City and County to participate in CCLEP Board meetings.	1	Short term
1.3 Create a full-time Energy Coordinator position within CCLEP to manage Energy Plan activities.	1.3.a. Obtain funding for the coordinator using a combination of grants, County funds, and City funds.	1	Short term
	1.3.b. Hire the coordinator.	1	Short-term
1.4 Encourage other local government entities (e.g. townships and Grand Portage) to participate in Energy Plan activities.	1.4.a. Keep government entities informed of Plan progress.	2	On-going
	1.4.b. Encourage their participation in implementing the Energy Plan.	2	On-going
1.5 Encourage local State and Federal entities to participate in Energy Plan activities.	1.4.a. Keep government entities informed of Plan progress.	2	On-going
	1.4.b. Encourage their participation in implementing the Energy Plan.	2	On-going
1.6 Encourage local energy providers to participate in Energy Plan activities.	1.6.a. Keep energy providers informed of Plan progress.	2	On-going
	1.6.b. Encourage their participation in implementing the Energy Plan.	2	On-going
1.7 Keep the Energy Plan relevant and up-to-date.	1.7.a. Review and/or revise the Plan yearly in response to changing conditions.	1	On-going
1.8 Reporting.	1.8.a. Provide yearly progress updates to the Cook County Board of Commissioners and the Grand Marais City Council. Include summary of progress on action steps, discussion of barriers to completion and anticipated activities in the coming year.	1	On-going
	1.8.b. Publicize progress to the Community through newspaper articles, radio spots, etc.	1	On-going

T – Additional reference information in Table B1 of the Energy Toolbox.

Goal 2: Increase public awareness and engagement regarding energy issues through education.

Strategy	Action Step	Priority	Timeframe
2.1 Educate the public in Energy Efficiency/ Renewable Energy (EE/RE) issues.	2.1.a. Provide periodic progress updates via CCLEP website, partner websites, newspaper articles, radio spots, social media, etc.	1	On-going
	2.1.b. Establish and maintain a database of Energy Efficiency and Renewable Energy (EE/RE) options and technologies. T	1	Short term
	2.1.c. Educate homeowners and business owners about energy savings, cost savings and environmental benefits of water conservation and waste reduction.	1	Mid-term
	2.1.d. Hold periodic public meetings to present and discuss Energy Plan progress.	2	On-going
	2.1.e. Actively support local efforts that contribute to EE/RE (e.g. North House Folk School sustainability weekend, Small Footprint Living Fair).	2	On-going
	2.1.f. Work with community organizations such as churches, homeowners associations, civic groups, etc. to advocate for EE/RE issues.	2	Mid-term
	2.1.g. Research and assess energy efficient heating systems (e.g. ground source heat pumps, high efficiency boilers, etc.) and appliances.	2	Mid-term
	2.1.h. Provide additional avenues for EE/RE training (e.g. Duluth Energy Efficiency Program (DEEP), Higher Ed, webinar, Training classes). T	3	On-going
	2.1.i. Investigate ways for adults and youth to work together on EE/RE projects through curriculum changes, science fairs, school energy groups, etc.	3	Mid-term
2.2 Solicit community engagement in Energy Plan activities.	2.2.a. Engage in outreach efforts to seek individuals and organizations (churches, homeowners associations, civic groups, etc.) that would serve as champions for EE/RE.	1	Short-term
	2.2.b. Create a champions database and web based contact and information system to send updates and keep champions engaged.	2	Mid-term
	2.2.c. Periodically invite participation on CCLEP board.	2	On-going

2.3 Educate community youth in Energy Efficiency/ Renewable Energy (EE/RE).	2.3.a. Identify key stakeholders and champions of EE and RE in the education system. Determine how CCLEP can assist with meeting learner outcomes in science and math through classroom training, field trips, use of watt hour meters, etc.	1	Short-term
	2.3.b. Encourage educators to obtain EE/RE training through organizations like Communities for Renewable Energy Education and Demonstration Project (CREED). T	1	Short term
	2.3.c. Create an EE/RE mentoring program [Contact School to Work coordinator in Lake Superior School district to discuss replicating their program].	1	Mid-term
	2.3 d. Create School Energy group(s) with participation from students, teachers, parents, and other stakeholders.	2	Mid-term
	2.3.e. Develop K-12 EE Program. Collaborate with educational institutions like the EPA and Schools for Energy Efficiency (SEE). T	2	Mid-term
	2.3.f. Develop a home energy challenge in the schools in collaboration with school stakeholders. T	2	Mid-term
	2.3.g. Provide opportunities for youth to participate in existing EE/RE programs (e.g. Wolf Ridge Environmental Learning Center Class). T	2	Short term
	2.3.h. Provide funding for youth to participate in energy conferences.	2	Mid-term
	2.3.i. Encourage guest speakers to provide EE/RE education in classrooms.	3	On-going
2.4 Solicit community attitudes and creative ideas related to energy efficiency and renewable energy (EE/RE).	2.4.a. Periodically assess public opinion to determine level of engagement and seek ideas for EE/RE improvement.	2	On-going
2.5 Provide opportunities to government and utility officials, architects, builders, and building owners for residential and commercial energy efficiency and renewable energy education.	2.5.a. Investigate potential education avenues for government and utility officials, architects and builders. T	1	Short term
	2.5.b. Develop and publicize an education program based on 2.5a.	1	Mid term
	2.5.c. Investigate potential avenues for residential and commercial building owner education.	1	Short term
	2.5.d. Develop and publicize education programs based on 2.5c.	2	Mid term

2.6 Stay current with best practices, funding opportunities and emerging technologies.	2.6.a. Sign-up to receive energy related e-newsletters and announcements.	2	Short term
	2.6.b. Participate in local, regional, state, and national seminars/conferences.	3	Mid term
	2.6.c. Promote and implement as appropriate.	3	On-going
2.7 Demonstrate Energy Efficiency and Renewable Energy technologies (EE/RE).	2.7.a. Develop and promote EE/RE demonstration sites.	1	Mid-term
	2.7.b. Periodically update demonstration site listing in this plan (Table B3).	2	Mid-term

T – Additional reference information in Table B1 of the Energy Toolbox.

Goal 3: Optimize energy efficiency in the residential sector.

Strategy	Action Step	Priority	Timeframe
3.1 Improve energy efficiency of existing homes.	3.1.a. Develop a residential energy efficiency pilot program in partnership with the Duluth Energy Efficiency Program (DEEP).	1	Short-term
	3.1.b. Develop Home Heating Score Card and promote use of EPA Home Energy Yardstick. T	1	Short term
	3.1.c. Develop workshop and educational outreach materials. Utilize on-line workshops. T	1	Short term
	3.1.d. Publicize the energy efficiency Pilot Program and subsequent energy efficiency programs.	1	On-going
	3.1.e. Incorporate water conservation component into the home energy audit process (low flow showerheads, faucet aerators, identify leaky toilets, promote high efficiency clothes washers).	1	Short-term
	3.1.f. Identify minimum qualifications for home energy auditors, insulation and air sealing contractors, and mechanical contractors.	1	Short-term
	3.1.g. Survey and recruit area contractors to participate in the residential energy efficiency pilot program.	1	Mid term
	3.1.h. Transition the pilot residential energy efficiency program (3.1.a) into an ongoing, county wide program.	1	Long-term
	3.1.i. Collaborate with electric utilities to determine how CCLEP can assist with meeting utilities' annual Conservation Improvement Program (CIP) Goals of 1.5% reduction of energy sales. Target marketing for electric water heating customers, CFL and LED lighting promotion, direct install material program, refrigerator and freezer metering during energy audit, and behavioral change program utilizing watt hour meters and whole house electric monitors. Continue and improve existing utility programs promoting energy efficiency.	1	Short-term
	3.1.j. Investigate ways to overcome barriers to improving energy efficiency of rental properties; implement resolutions as appropriate. T	1	Mid term
	3.1.k. Coordinate and/or partner with other organizations such as the Arrowhead Economic Opportunity Agency (AEOA) and Cook County/Grand Marais Economic Development Authority (EDA) for income eligible energy audit and implementation assistance.	1	Mid-term
	3.1.l. Develop home energy monitor loan program.	3	Long term

3.2 Identify and publicize financial assistance for implementing residential energy efficiency improvements.	3.2.a. Research and regularly update the availability of grants, loans, utility rebates, tax credits, etc. for energy efficiency improvements. T	1	Short term/ on-going
	3.2.b. Stay abreast of Property Assessed Clean Energy (PACE) and similar financing programs. T	1	On-going
	3.2.c. Publicize the availability of financial assistance through CCLEP website, partner websites, newspaper articles, radio spots, social media, etc.	1	Short term/ on-going
3.3 Improve energy efficiency of new home construction.	3.3.a. Adopt voluntary energy efficiency building standards. T	2	Mid-term
	3.3.b. Provide energy efficient building information resources with land-use permits.	2	On-going
	3.3.c. Review and up-date voluntary building standards and informational resources as appropriate.	2	On-going
3.4 Address unnecessary barriers to implementing energy efficiency projects.	3.4.a. Review existing building codes and local ordinances for unnecessary barriers; eliminate as appropriate.	1	Mid term
	3.4.b. Determine the level of building code enforcement throughout the county and consider possible changes.	2	Mid-term
	3.4.c. Survey area builders to determine current energy efficiency building practices, eg. R-values, window grades, air tightness, etc.	2	Mid-term
3.5 Work with utilities to consider policies that encourage residential energy efficiency.	3.5.a. Survey utility customers to determine perceived barriers to participation in utility conservation improvement programs.	2	Mid term
	3.5.b. Identify innovative and successful state and national utility energy efficiency policies and programs and collaborate with local utilities to review feasibility of implementation.	2	Mid term
	3.5.c. Include indication of home energy usage relative to similar homes on energy bills to encourage conservation.	2	Mid-term

T – Additional reference information in Table B1 of the Energy Toolbox.

Goal 4: Optimize energy efficiency in the public and institutional sectors

Strategy	Action Step	Priority	Timeframe
4.1 Optimize energy efficiency in existing City and County buildings.	4.1.a. Perform general benchmarking to determine the Energy Use Index (EUI) of City and County buildings. Rank buildings by kBtu/ft2, prioritize high consumption buildings for facility energy audits. T	2	Short-term
	4.1.b. Perform facility energy audits to identify and prioritize opportunities for efficiency improvements. Partner with utilities on audit delivery, utility conservation improvement programs (CIPs), and rebates.	1	Short-term
	4.1.c. Develop an energy efficient lighting program for City and County buildings in collaboration with utilities promoting state-of-the-art lighting technologies. Survey area electricians to determine current best practices.	2	Short-term
	4.1.d. Develop an IT energy management pilot program for the city and county to manage computer energy use and optimize savings. Upon successful completion of pilot program, promote to all businesses. T	2	Mid-term
	4.1.e. Adopt water conservation techniques in public buildings.	2	Short-term
	4.1.f. Consider performance contracting to improve building performance.	2	Mid-term
	4.1.g. Identify sources of funding assistance.	1	On-going
	4.1.h. Procure funding and implement recommended improvements.	1	On-going
4.2 Optimize energy efficiency in new City and County buildings.	4.2.a. Adopt energy efficiency building standards. T	2	Mid-term
	4.2.b. Review and update building energy efficiency standards as appropriate.	2	On-going.

4.3 Optimize energy and resource efficiency in City and County non-facility usage.	4.3.a. Streetlights – Gather data on existing system – number of lights, wattages, lumens, required maintenance, etc. Research successful retrofit programs and determine cost benefit analysis; coordinate with public utility conservation improvement programs (CIPs).	2	Mid-term
	4.3 b. Review energy efficiency of water and wastewater treatment systems; improve as appropriate.	2	Mid-term
	4.3.c. Analyze fuel efficiency of City and County vehicle fleets and develop for optimal fuel efficiency.	1	Mid-term
	4.3.d. Purchasing – Investigate a green purchasing program for the City and County. Energy Star office equipment, paper products, cleaning supplies, etc. Review the St. Louis County and City of Duluth green purchasing policies and efforts. Is there an opportunity for City and County joint purchasing? T	3	Mid-term
4.4 Provide opportunities for building operators and users for energy efficiency education.	4.4.a Educate facility and operations managers on energy efficiency best practices and preventative maintenance. Promote building operators training – seek utility cooperation. T	1	Short-term
	4.4.b. Increase awareness of energy consumption in City and County departments. Develop an Energy Awareness Campaign/Challenge for City and County employees. Establish reduction targets, create employee incentives, track consumption patterns.	2	Mid-term
4.5 Optimize energy efficiency in other public and institutional facilities (e.g. Schools, Hospital, Churches, State and Federal buildings, Grand Portage buildings).	4.5.a. Compile a list of countywide public and institutional facilities.	2	Short term
	4.5.b. Identify and establish communication with facility managers.	2	Mid term
	4.5.c. Provide energy efficiency education to facility managers.	2	Mid term
	4.5.d. Assist facility management in implementing energy efficiency projects.	2	On-going

T – Additional reference information in Table B1 of the Energy Toolbox.

Goal 5: Optimize energy efficiency in the commercial sector.

Strategy	Action Step	Priority	Timeframe
5.1 Improve existing commercial energy efficiency.	5.1.a. Promote facility energy audits to identify and prioritize opportunities for efficiency improvements. Partner with utilities on audits, utility conservation improvement programs (CIPs), and rebates. T	1	Short term and on-going
	5.1.b. Incorporate water conservation component into the energy audit (low flow showerheads, faucet aerators, identify leaky toilets).	1	Short-term
	5.1.c. Identify minimum qualifications for energy auditors, insulation and air sealing contractors, and mechanical contractors.	1	Short-term
	5.1.d. Develop a Hospitality Energy Efficiency Program. Compile list of all hospitality businesses, categorize by age and building type, (large multi unit vs single cabin).	1	Short-term
	5.1.e. Develop an energy efficient lighting program in collaboration with utilities promoting state-of-the-art lighting technologies. (Interior, exterior and parking lot lighting). Survey area electricians to determine current best practices. Assist utilities with promoting program.	2	Short-term
	5.1.f. Consider performance contracting to improve commercial building performance.	2	Mid-term
5.2 Optimize energy efficiency in major commercial energy use facilities.	5.2.a. Compile a list of countywide major energy use facilities.	2	Short term
	5.2.b. Identify and establish communication with facility managers.	2	Mid term
	5.2.c. Provide energy efficiency education to facility managers.	2	Mid term
	5.2.d. Assist facility management in implementing energy efficiency projects.	2	On-going
5.3 Identify and publicize financial assistance for implementing commercial energy efficiency improvements.	5.3.a Research and regularly update the availability of grants, loans, utility rebates, tax incentives, etc. for commercial energy efficiency improvements. T	1	On-going
	5.3.b. Stay abreast of Property Assessed Clean Energy (PACE) and similar financing programs. T	1	On-going
	5.3.c. Publicize the availability of financial assistance through CCLEP and partner websites, newspaper articles, radio spots, social media, etc.	1	On-going
	5.3.d. Investigate utilizing available programs like MN Energy Smart and MN RETAP. T	2	Short-term

5.4 Improve energy efficiency of new commercial buildings.	5.4.a. Provide energy efficient building informational resources with land-use permits.	1	On-going
	5.4.b. Consider voluntary energy efficiency building standards. T	3	Mid-term
	5.4.c. Review and up-date voluntary building standards and informational resources as appropriate.	3	On-going
5.5 Address unnecessary barriers to implementing commercial energy efficiency projects.	5.5.a. Review existing building codes and local ordinances for unnecessary barriers; eliminate as appropriate.	1	Mid term
	5.5.b. Determine the level of building code enforcement throughout the County and consider possible changes.	2	Mid-term
	5.5.c. Survey area builders to determine current energy efficiency building practices, eg. R-values, window grades, air tightness, etc.	2	Mid-term
5.6 Work with utilities to consider policies that encourage commercial energy efficiency.	5.6.a. Survey utility commercial customers to determine perceived barriers to participation in utility conservation improvement programs.	2	Mid term
	5.6.b. Identify innovative and successful State and National utility energy efficiency policies and programs and collaborate with local utilities to review feasibility of implementation.	2	Mid term

T – Additional reference information in Table B1 of the Energy Toolbox.

Goal 6: Optimize clean, local renewable energy development

Strategy	Action Step	Priority	Timeframe
6.1 Identify opportunities for renewable energy development in Cook County.	6.1.a. Research potential opportunities for use of renewable energy technologies including biomass, biofuels, algae production, wind, solar water heating, solar electric, etc.	1	Short-term/ On-going
	6.1.b. Perform feasibility studies to better define opportunities for technologies identified as promising in 6.1.a. (e.g. biomass).	1	Mid-term/ On-going
	6.1.c. Complete the on-going biomass feasibility study; implement recommendations as appropriate.	1	Mid term
	6.1.d. Develop renewable energy demonstration projects.	2	On-going
6.2 Address public policy barriers to renewable energy system installation.	6.2.a. Review land-use policies, zoning ordinances, building codes, and other local regulations to identify potential barriers to renewable energy systems.	1	Short term
	6.2.b. Amend land-use policies, zoning ordinances, building codes, and other local regulations to eliminate inappropriate barriers.	2	Mid term
6.3 Integrate renewable energy options into new building construction as appropriate.	6.3.a. Provide informational resources describing renewable energy options with land-use permits.	2	Mid-term
	6.3.b. Update informational resources on a regular basis to incorporate technological improvements that might occur.	2	On-going
6.4 Incorporate renewable energy technologies into City and County operations.	6.4.a. Review options for incorporating renewable energy technologies into new and existing City and County facilities.	1	Short-term
	6.4.b. Incorporate renewable energy technologies into City and County facilities as appropriate.	2	Mid-term
	6.4.c. Consider renewable energy options in all bids for new public building construction.	1	Short term
	6.4.d. Investigate using local biofuels in City and County vehicle fleets.	3	Long term
6.5 Identify and publicize financial assistance for renewable energy installations.	6.5.a. Research and update the availability of grants, loans, tax rebates, etc. for renewable energy installations.	1	Short-term/ On-going
	6.5.b. Stay abreast of Property Assessed Clean Energy (PACE) and similar financing programs. T	1	On-going
	6.5.c. Publicize the availability of financial assistance through newspaper articles, radio spots, CCLEP website, partner websites, social media, etc.	1	Short-term/ On-going

6.6 Work with utilities to consider policies that encourage renewable energy development.	6.6.a. Address barriers and disincentives related to the installation of grid connected renewable energy.	1	Short term
	6.6.b. Develop policies that would encourage increased utilization of grid connected renewable energy systems	2	Mid-term
	6.6.c. Investigate innovative and successful state and national trends on time of day rates, smart grid technologies, micro-grids, distributed generation systems, etc.	2	Mid-term
	6.6.d. Identify successful utility renewable energy programs and policies and collaborate with local utilities to review feasibility of implementation	2	Mid-term

T – Additional reference information in Table B1 of the Energy Toolbox.

7. Promote land use practices that optimize energy efficiency

Strategy	Action Step	Priority	Timeframe
7.1 Encourage energy and resource efficient land use in the City and County.	7.1.a. Promote "town center" or "nodal" development that reduces vehicle travel distances and facilitates pedestrian and bicycle travel.	1	Short term
	7.1.b. Review existing local zoning plans and regulations and recommend changes that will encourage “town center” or “nodal” development.	2	Long-term
	7.1.c. Encourage local food production.	2	Mid-term
	7.1.d. Improve and maintain urban forests in Grand Marais and in town centers.	2	Long-term
	7.1.e. Support local efforts and policies that promote the conservation and sustainable management of wetlands, ground water and surface water resources.	2	Mid-term
	7.1.f. Promote the use of open space subdivisions when developing properties in Cook County.	2	Mid-term
	7.1.g. Work with state, federal, and private forest managers to enhance carbon sequestration benefits of forested lands.	3	Long-term

T – Additional reference information in Table B1 of the Energy Toolbox.

8. Promote energy efficient transportation

Strategy	Action Step	Priority	Timeframe
8.1 Encourage pedestrian and bicycle transportation.	8.1.a. Promote "town center" or "nodal" development that reduces vehicle travel distances and facilitates pedestrian and bicycle travel.	1	On-going
	8.1.b. Promote development of multiple use streets. Use Complete Streets as a guide. T	1	On-going
	8.1.c. Work with local walking and biking advocacy groups such as Safe Routes to School, State Health Improvement Program, Active Living Steering Committee, and the Superior Cycling Association.	1	Short term
	8.1.d. Promote a bike sharing program including storage and maintenance.	2	Long term
	8.1.e. Encourage development of pedestrian and bike trails within and between communities (e.g. Gitchi Gami Trail).	2	Mid-term
	8.1.f. Encourage the development of bicycle and pedestrian friendly communities including such things as sufficient bike racks, employee biking programs, shower facilities, walking maps, etc. T	2	Mid-term
8.2 Increase use and energy efficiency of public transportation.	8.2.a. Work with appropriate entities to optimize energy efficiency of public transportation (including Arrowhead Transit).	3	Mid term
	8.2.b. Promote use of energy efficient transportation.	3	Mid term
8.3 Encourage ride and delivery sharing.	8.3.a. Improve and maintain a web-based community ride and delivery sharing program (North Shore Ride Share). T	2	On-going
	8.3.b. Develop incentives for ride-sharing (e.g. - Create parking lots where ride-sharers can gather).	2	Mid term
	8.3.c. Investigate developing a local car-sharing program. T	2	Mid-term
8.4 Encourage the use of electric vehicles.	8.4.a. Determine the feasibility of installing vehicle charging stations.	3	Mid term
8.5 Investigate alternative energy efficient transportation methods.	8.5.a. Determine the feasibility of using alternative means of mass and freight transportation to and from the County (e.g. boats and trains).	3	Long term
	8.5.b. Encourage appropriate use of alternative energy efficient transportation. e.g. ATVs, electric carts, Segways.	3	Long term
8.6 Promote telecommuting.	8.6.a. Optimize use of broadband capability to promote telecommuting.	3	Mid-term
	8.6.b. Establish telecommuting policy for City and County employees (see Fort Collins, CO for example).	3	Long term

8.7 Increase vehicle efficiency.	8.7.a. Analyze fuel efficiency of City and County vehicle fleets and develop for optimal fuel efficiency.	1	Mid-term
	8.7.b. Investigate potential for efficiency improvements with school bus fleets.	2	Mid-term
	8.7.c. Create tire inflation awareness campaign. Poster at all filling stations. Partner with fuel stations. Potential for a high school project. T	2	Mid-term
	8.7.d. Initiate a "No Idle" Policy for City and County fleets as appropriate. T	2	Short-term

T – Additional reference information in Table B1 of the Energy Toolbox.

Goal 9: Promote and endorse an energy efficiency and renewable energy business sector

Strategy	Action Step	Priority	Timeframe
9.1 Promote energy efficiency and renewable energy (EE/RE) business development.	9.1.a. Work with business support networks (e.g. EDA and Chamber of Commerce) to strengthen existing local EE/RE related businesses.	1	Mid term
	9.1.b. Identify and promote EE/RE training and certification opportunities for local businesses/individuals.	1	Short term
	9.1.c. Encourage City and County residents to use local contractors and products that optimize EE/RE.	1	On-going
	9.1.d. Consider offering discounts at Cedar Grove Business Park to EE/RE related businesses.	1	Short term
	9.1.e. Encourage development of new EE/RE related businesses in Cook County.	2	Long-term
	9.1.f. Promote local EE/RE businesses through the CCLEP and partner websites, and events.	2	Mid-term
	9.1.g. Work with Higher Education, North House Folk School, and other stakeholders to develop EE/RE education businesses.	2	Mid-term
9.2 Promote Cook County and Grand Marais efforts in Energy Efficiency/Renewable Energy (EE/RE).	9.2.a. Work with the Cook County Events and Visitors Bureau, EDA, Chamber of Commerce, and other stakeholders to publicize EE/RE efforts and promote eco-tourism.	2	Mid-term
	9.2.b. Support EE/RE related events in Grand Marais such as Small Footprint Living Fair and the North House Northern Sustainability Symposium.	2	Mid-term
9.3 Develop an eco-industrial park (e.g. Victus Farms, Silver Bay).	9.3.a. Conduct research of successful state and national eco-Industrial Parks with the goal of optimizing resource productivity, recovery of energy and material byproducts, integration of conservation design and green building features, and moving toward zero waste and emissions. T	2	Mid-term
	9.3.b. Assess and determine the technical and economic feasibility of renewable energy options and identify development strategies for an integrated renewable energy production system as a cornerstone for an eco-industrial development.	3	Long-term

T – Additional reference information in Table B1 of the Energy Toolbox.

Goal 10: Promote water conservation and waste reduction

Strategy	Action Step	Priority	Timeframe
10.1 Promote water conservation to save energy.	10.1.a. Incorporate water conservation component into home, business and public energy efficiency programs.	1	Short-term
	10.1.b. Work with utility conservation improvement programs (CIPs) to promote water conservation utilizing measures such as low flow showerheads, faucet aerators, promoting high efficiency clothes washers, etc.	1	Short-term
	10.1.c. Identify major users of hot water and assist in reducing hot water usage.	2	Mid term
	10.1d. Promote use of rainwater collection systems i.e. rainbarrels.	3	Long term
10.2 Promote waste reduction and recycling to save energy.	10.2.a. Survey existing homes and businesses to determine full extent of recycling and waste reduction. Are there adequate drop sites in the county? % of households recycling?	2	Mid-term
	10.2.b. Determine volume of waste per year, associated cost per household and business, and potential for savings.	2	Long-term
	10.2.c. Improve current waste reduction and recycling practices.	2	Mid-term
	10.2.d. Improve recycling of hazardous wastes such as cfls, batteries, electronics, etc.	2	Mid-term
	10.2.e. Consider expanding County recycling program (e.g. building materials exchange, larger second-hand store).	2	Long-term
	10.2.f. Encourage residential and commercial composting.	2	Mid term
	10.2.g. Reduce use of “disposable” one-time use bottles, bags, and other items as appropriate.	3	Long term
	10.2.h. Consider joining MN Waste Wise. T	3	Mid-term
10.3 Investigate waste-to-energy technologies.	10.3.a. Consider conversion processes such as burning waste paper products for heat, converting waste cooking oil to biodiesel and collection of methane from wastewater treatment facility, etc.	3	On-going
	10.3.b. Implement technologies in 10.3.a. as appropriate.	3	On-going

T – Additional reference information in Table B1 of the Energy Toolbox.