

Community Assistantship Program

**Growing Awareness of Renewable Energy in
Olmsted County**

Growing Awareness of Renewable Energy in Olmsted County

Prepared in partnership with
Olmsted County Clean Energy Resource Team

Prepared by
Erin Brandt
Graduate Student

University of Minnesota
March, 2006

CAP Report 106

May 2006

CAP is a cross-college, cross-campus University of Minnesota initiative coordinated by the Center for Urban and Regional Affairs.

Funds for this project were generously provided by the McKnight foundation.

This is a publication of the Center for Urban and Regional Affairs (CURA), an all-University applied research and technology center at the University of Minnesota that connects faculty and students with community organizations and public institutions working on significant public policy issues in Minnesota. The content of this report is the responsibility of the author and is not necessarily endorsed by CAP, CURA or the University of Minnesota.

© 2006 by The Regents of the University of Minnesota. This publication may be reproduced in its entirety (except photographs or other materials reprinted here with permission from other sources) in print or electronic form, for noncommercial educational and nonprofit use only, provided that two copies of the resulting publication are sent to the CURA editor at the address below and that the following acknowledgment is included: "Reprinted with permission of the University of Minnesota's Center for Urban and Regional Affairs (CURA)."

For information regarding commercial reprints or reproduction of portions of this publication, contact the CURA editor at the address below.

This publication may be available in alternate formats upon request.

Center for Urban and Regional Affairs (CURA)
University of Minnesota
330 HHH Center
301--19th Avenue South
Minneapolis, Minnesota 55455

Phone: (612) 625-1551

Fax: (612) 626-0273

E-mail: cura@umn.edu

Web site: <http://www.cura.umn.edu>

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.



Clean Energy Resource Team Guide to Interaction with Agricultural Producers

Olmsted County CERTs
Created: Fall 2005



Guide to Interaction with Agricultural Producers

Table of Contents:

Introduction	2
Methodology	3
Summary of Interviews with Agricultural Producers	4
Important Ideas from Agricultural Producers	6
Goals for Interaction with Agricultural Producers	7
Resources and Education Techniques	8
First Meeting Agenda	9
Evaluation Form	11
Additional Interaction Opportunities	12
Appendix: Case Studies	13

Introduction

This guide is designed to assist local Clean Energy Resource Teams (CERTs) in facilitating exchanges with the agricultural community. The important ideas, points of interaction, goals and additional contact opportunities are meant to be applicable to a wide variety of agricultural producers, but specific enough to give clear ideas of what is important to the agricultural community and how energy efficiency/conservation and renewable energy technologies can be presented successfully. Other teams may want to do additional research on their local agricultural community in order to learn if there are specific issues they are seeking to address through energy options.

The goal of working with agricultural producers is to provide relevant and useful information to enable them to make decisions about energy consumption, raise awareness of the full cost of energy and educate citizens about energy issues. These goals can be accomplished by utilizing CERT's members and resources to assist agricultural producers in making more informed choices regarding energy.

The key points to remember when working with agricultural producers:

- Cost and budget issues
- Ease of use of any technology discussed
- Risk involved in adopting new technologies.

Agricultural producers are likely to require farm-specific information on the following in order to implement any energy savings or renewable energy programs:

- Energy Audits
- Benchmarking
- Financial resources for agriculture producers
- Resources regarding energy conservation/efficiency options and renewable technologies for farms.

Methodology

Guides for interaction with schools, local governments and the agricultural community were created for CERTs groups through a grant from the CAP program at the University of Minnesota. The information in the guides was obtained through a literature review and interviews with school officials, local government officials and agricultural producers. In general, the three sectors shared similar concerns regarding energy, conservation/efficiency and renewable technologies. The information in this guide was obtained from a literature review and interviews with five agricultural producers in Olmsted County.

Summary of Interviews with Agricultural Producers:

The agricultural producers interviewed were very concerned about rising energy prices which are increasing the cost of agricultural inputs while market prices for farm outputs are not growing. This is affecting agricultural producers' ability to make a profit and a living, especially since they are unable to increase yield. Agricultural producers expressed that they are most concerned with increases in fuel prices including diesel, LP gas, and natural gas (an input for fertilizer.) The agricultural activities most affected by fuel prices are the use of agricultural equipment and crop drying. Electricity is also a concern, especially for dairy agricultural producers as it is used in milk cooling, but electricity is a secondary matter for most agricultural producers.

The agricultural producers interviewed are already looking for ways to utilize energy conservation/efficiency techniques in their business in order to reduce overhead costs. One agricultural producer said that "Conservation efforts directly save money, thus they are utilized when possible on the farm." It was suggested that most agricultural producers are aware of fuels such as ethanol and B2 biodiesel and may try to utilize them if possible in their operations. Some agricultural producers are looking to use more efficient tractors and wider equipment in order to take fewer passes in the field. Other agricultural producers are taking measures such as turning down the thermostat, sidedressing crops (applying fertilizer after the plants are established,) or changing their crop rotation slightly and adding more hay. As one agricultural producer interviewed said, "Often energy efficiency means that something is better for the environment as well as profitability of the business." Many agricultural producers may be open to changes that involve energy conservation/efficiency or renewable technologies if they are cost effective and beneficial for their bottom line.

The agricultural producers interviewed are likely to consider the following factors in making a decision to utilize renewable energy or conservation/efficiency techniques: 1) cost, 2) ease of use, and 3) low risk. The cost of any new technology is important and must not impair cash flow for agricultural producers; however, they may be willing to pay more for future savings if their budget permits. The ease of use of any technology is a very close second to cost. Technologies should be simple to use, work well in all conditions, easy to maintain and maintenance assistance should be available if necessary. The third factor is the amount of risk

involved in adopting any new technology. Agricultural producers want technologies that have been tried and are proven to be effective in lowering energy costs without hurting their equipment or imposing frequent or expensive maintenance.

Agricultural producers indicated that they receive energy information from a number of sources including: farm magazines (there are free ones in Olmsted County,) local Agri-news, farm newspapers, Corn and Soybean Growers Associations, MN Department of Agriculture, the U of MN Extension Service and mainstream radio, TV and newspapers. Many agricultural producers are open to new possibilities and want to read and learn about them during the winter months when they are not as busy.

Currently, there is discussion in the agricultural community regarding community based energy generation. However, this discussion seems to lack focused goals or plans of action to collaborate in the creation or utilization of community based energy. Wind energy and fuels have the greatest appeal for agricultural producers since they see their land or products as direct inputs to these forms of renewable energy.

Three Most Important Ideas from Agricultural Producers

During interviews with agricultural producers, it became apparent that cost, ease of use and level of risk are the most important factors agricultural producers will consider when deciding whether to adopt conservation/efficiency and renewable technologies. It is critical to acknowledge these issues as fundamental to all discussions with agricultural producers and incorporate these ideas into interactions with the agricultural sector.

1) Cost: Cost must be the primary point of interaction when meeting with agricultural producers as their farm is their livelihood. Agricultural producers may be willing to spend money to save money later, however, they are not likely to be willing to put their farm or family at risk to purchase expensive energy technologies. However, agricultural producers are likely to be very receptive to ideas that will assist them reducing costs. Agricultural producers will be concerned about initial costs, maintenance costs, energy savings and the time needed to recover initial cost.

2) Ease of Use: Ease of use is very important to the agricultural community as they are reluctant to create more work for themselves in an already busy industry. Conservation/efficiency and renewable energy technologies should ideally come as a package deal, easy to install and use. Technology must work in all conditions and have few maintenance requirements.

3) Level of Risk: Agricultural producers as a group are risk averse. As mentioned above, their business is their livelihood, thus increasing costs and energy technologies are very critical to their bottom line. If the technology does not work, it is their problem to deal with, and this may make a single producer leery of being the first to obtain new technologies. Low risk indicates agricultural producers want technologies that have been tried and are proven to be effective in lowering energy costs without hurting their equipment or imposing frequent or expensive maintenance.

CERTs Goals for Interaction with Agricultural Producers

The following are overarching goals for communications with agricultural producers. Not all of the goals need to be accomplished in the first meeting, however all are important to the success of introducing conservation/efficiency and renewable energy technologies to the agricultural community and fulfilling the mission of CERTs.

1. To respond to concerns expressed by agricultural producers by presenting information about what other agricultural communities are doing to conserve energy and utilize renewable energy technologies.
2. Raise awareness of the full cost of current energy usage and the potential for future cost savings through conservation/efficiency and renewable energy technologies.
3. Utilize the project or education event as an opportunity to reach out to the community and educate citizens about energy issues.
4. Present technology and financing options in a pragmatic way so that agricultural producers see them as a realistic possibility.
5. To act as a resource, connecting agricultural producers with information they need to make decisions about and implement renewable energy, conservation and efficiency measures.

Resources and Education Techniques

The focus of all communications with the agricultural community should be to educate agricultural producers and other interested parties about energy conservation/efficiency and renewable technologies. The most valuable resource CERTs has in this endeavor is the knowledge, skills and resources within the team. Teams have access to technical knowledge of energy technologies and funding sources which are the critical knowledge gaps for agricultural producers and other groups interviewed. By providing easy access to this information through constructive dialogue with the sector, CERTs will market themselves as a capable and skilled resource to agricultural producers. In turn, these resources will hopefully appeal to agricultural producers and increase their willingness to find ways to utilize energy conservation/efficiency techniques and clean energy.

CERT representatives should be aware of and seek to utilize adult experiential education techniques in order to effectively connect with and convey information to the participants. By involving the learners in a concrete experience such as a video demonstration or case study, CERTs can more effectively engage participants in the workshop. Following these activities, a discussion of possible technologies and the costs and benefits of these options will be helpful to assist agricultural producers in applying the lessons of the case study to their own business. It is very important to respect the time constraints of agricultural producers and keep meetings brief (1-2 hours) unless more time is requested.

Planning your Meeting

These suggestions are intended to be used for an initial meeting with agricultural producers and other interested parties. It is not necessary to utilize all of the suggestions in one meeting, but rather to pick which ideas are most useful for a particular interface.

Time length: 1-2 hours

Suggestions:

- 1) Introductions
- 2) CERTs Presentation
 - *Very brief introduction of CERTs
- 3) What challenges do agricultural producers face in regards to energy?
 - a) How do agricultural producers see energy costs affecting their budget and profits in the future if they maintain the status quo?
 - Agricultural producers will likely identify rising fuel and electricity as their largest challenges regarding energy. They will be concerned about the rising costs, but willing to be proactive to mitigate the problem if solutions are presented. The key transition point will be identifying how to best address concerns regarding cost, ease of use and risk in proposing conservation/efficiency efforts and renewable energy technologies.
- 4) Presentation of examples of how agricultural producers are effectively utilizing renewable or conservation/efficiency technology to reduce cost.
 - This should be 2-3 examples from other farms and should include how energy changes were implemented, how these changes were financed, the effort required to make these changes and any risks involved.
 - Examples from other farms should naturally transition into how agricultural producers can apply these technologies on their own farm.
- 5) Options

- a) Choose 1-3 conservation/efficiency options to describe in detail. These should be options that are widely applicable to many agricultural producers, affordable, simple to use, require little maintenance, and have a low risk factor.
- b) Provide information about these options.
 - Move from a single farm based option to community generation options where collaboration is needed for success.
- 6) Possibilities for community based energy generation.
 - This is an opportunity for the agricultural community to discuss how to work collectively toward community based energy generation.
- 7) Sources of Information/Resources
 - a) Auditors
 - b) Weidt group
 - c) CERT's
 - d) Experts
 - e) Internet sources
 - f) Financial resources
- 8) Questions from participants and any further discussions.

Information Packet

The following items could be included in an information packet to leave with agricultural producers:

- Contact information for CERTs
- Case studies from the agricultural community
- Information regarding conservation/efficiency and renewable energy technologies. Also, where to find additional information.
- Financing resources

Evaluation Form

It is important to have participants evaluate their experiences in the workshops. The following are useful evaluation tools that can be used to improve further contact with the sector.

Directions: Please fill out the evaluation and give it to a CERTs member before you leave. Thank you for taking the time to assist us in improving our workshops.

1. Did you find the information presented in the workshop useful?

- Very Useful
- Somewhat Useful
- Not Useful

2. Was there any part of the workshop that could be improved?

- Yes
- No

If Yes, please explain briefly. _____

3. Is there additional information you would like to see included in future workshops?

- Yes
- No

If Yes, please explain briefly. _____

4. General Comments:

Yes, I would like to be contacted by a CERTs member to receive more information on energy efficiency/conservation and/or renewable energy technologies.

Name: _____ Phone: _____

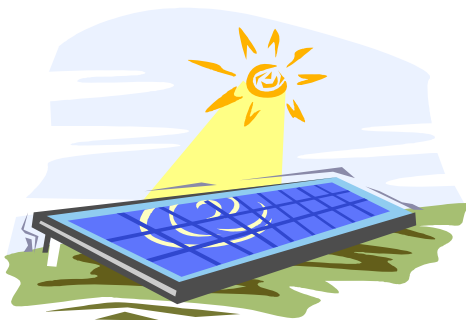
Additional Contact Opportunities with the Agricultural Community:

- Farm group/association meetings. This would simply be an opportunity to present ideas, encourage stakeholders to contemplate them, and increase the visibility and credibility of CERTs with agricultural producers.
- Provide information to farm publications in Minnesota on conservation/efficiency and renewable energy technologies. These publications are one of the ways agricultural producers obtain their information and may be effective in getting information to agricultural producers.
- Energy Conference/Additional Workshops
- Create materials for agricultural producers to provide them with information regarding the potential of renewable energy, conservation/efficiency and retrofitting.
- Partner with a farmer or small group of agricultural producers on a small project, this will build relationships with the agricultural community, and demonstrate that OlmCERT is committed to the project.
- Create a website specific to agricultural producers in Olmsted County (size and resources) with projects ideas from other farms, and information about renewable technologies, conservation/efficiency, and retrofitting – have OlmCERT be another resource to agricultural producers. This website will help to build the name of OlmCERT and trust in the organization as well as provide useful information.



Clean Energy Resource Team Guide to Interaction with Local Governments

Olmsted County CERTs
Created: Fall 2005



Guide to Interaction with Local Governments

Table of Contents:

Introduction	2
Methodology	3
Summary of Interviews with Local Government Officials	4
Important Ideas from Local Government Officials	6
Goals for Interaction with Local Government Officials	8
Resources and Education Techniques	9
Planning Your Meeting	10
Evaluation Form	12
Additional Interaction Opportunities	13
Appendix: Case Studies	14

Introduction

This guide is designed to assist local Clean Energy Resource Teams (CERTs) in facilitating exchanges with local government officials and concerned citizens. The important ideas, points of interaction, goals and possible contact opportunities are meant to be applicable to a wide variety of local governments, but specific enough to give clear ideas of what is important to local governments and how energy efficiency/conservation and renewable energy technologies can be presented successfully. Groups may want to do additional research on their local governments in order to learn if there are specific issues they are seeking to address through energy options.

The goal of working with local governments is to provide relevant and useful information to enable government officials to make decisions about energy consumption, raise awareness of the full cost of energy and educate citizens about energy issues. These goals can be accomplished by utilizing CERT's members and resources to assist local governments in making more informed choices regarding energy.

The key points to consider when working with local governments:

- Budget constraints of local governments
- Maintenance and energy infrastructure concerns
- Examples of what other cities of similar size have achieved
- Provision of city services is the main goal of city officials
- Reliability of equipment and the source are important.

Local Governments are likely to require information on the following in order to implement any energy savings or renewable energy programs:

- Energy Audits
- Benchmarking
- Financial Resources
- Resources regarding energy conservation/efficiency options and renewable technologies.

Methodology

Guides for interaction with schools, local governments and the agricultural community were created for CERTs groups through a grant from the CAP program at the University of Minnesota. The information in the guides was obtained through a literature review and interviews with school officials, local government officials and agricultural producers. In general, the three sectors shared similar concerns regarding energy, conservation/efficiency and renewable technologies. Local governments and schools in particular shared many of the same issues and concerns. The interviews utilized in the local government guide were conducted with a mayor, a city council person and a city administrator/facilities coordinator – all from cities in Olmsted county.

Summary of Interviews with Cities:

Interviews with government officials in Olmsted county revealed that their primary concern in regards to energy is the rapidly increasing cost of energy and the effect this has on their ability to provide services. A city administrator said that, “the main goal of cities is to provide services necessary to keep the city going, and rising energy costs have an affect on this.”

City officials recognize two immediate choices in the face of rising energy costs, 1) cut services and 2) raise taxes. One city official noted that local governments have bonding and grant seeking capabilities. This gives city government options to deal with rising energy costs, and may also indicate their ability to choose between a wider array of solutions to the problem as well as make long-term commitments to these solutions. Cities also have the power to share the impact of renewable technology with other organizations, businesses and households in the community.

It seems that the cities have not placed a great deal of emphasis on future energy planning. Cities have made some modifications in regards to energy infrastructure such as replace furnaces and install windows to increase passive solar energy utilization, however they do not do long range planning with regards to energy. One of the cities had been engaged in discussions with a consulting firm about the prospect of conducting an energy audit and possibly utilizing renewable energy, however the firm did not follow up and the city did not pursue the issue further.

Government officials have indicated that they would consider the following factors in making a decision to utilize renewable energy or conservation/efficiency techniques: 1) initial costs, 2) ongoing costs (replacement and maintenance costs,) 3) future benefits/length of time to recoup costs of initial investment, 4) reliability of both the source of the energy and equipment and 5) would the change interrupt current city services. It is very important for cities to know how these items would affect their existing budget, structures, services and personnel before making any decisions.

City officials interviewed have stressed the importance of including residents in the decision making process and educating them about the benefits of renewable energy. One city council member mentioned that “Most people see renewable energy and conservation as a positive thing, its not that they don’t think it’s a good idea, they just don’t know that much about

it.” The perception is that renewable energy and energy conservation/efficiency would be positive for the city, however, people simply do not know what is involved in a decision to adopt renewable energy technology, and thus they are leery of whether it would be good for the city or not. Conservation/efficiency and retrofitting measures are much easier to explain and for people to accept due to their comparatively small price tag.

The potential ability of cities to finance energy technologies and their desire to provide services to residents combined with a perception that city officials are usually somewhat forward thinking individuals makes local government a good target for the implementation of energy projects.

Important Ideas from Local Governments

During interviews with local government officials, it became apparent that budget constraints, maintenance and infrastructure issues, examples from other cities, and services and reliability of the technologies are the most important factors cities consider when deciding whether to adopt conservation/efficiency and renewable technologies. It is critical to acknowledge these issues as fundamental to all discussions with government officials and incorporate these ideas into future contacts with local governments.

1) Budget Constraints: Discussions with local government officials revealed that budget constraints are the most important factor in any decision regarding energy consumption, efficiency/conservation and the utilization of new technologies. City officials discussed three elements of cost during interviews: a) initial cost and length of time to recover initial costs, b) replacement and maintenance costs, and c) costs of energy continuing to rise. In their view, initial cost is the crucial element rather than potential savings since it is a current cost. Therefore, future exchanges with cities should include an analysis of the total cost of energy, future savings and resources available to help cover the initial costs.

2) Maintenance and Infrastructure Issues: Government officials are concerned about the amount of effort it will take to maintain conservation/efficiency and renewable technologies or recommission current city service equipment. There is concern that renewable energy technologies would place unnecessary strain on current maintenance staff, reducing their ability to perform current responsibilities and negatively impacting city services and maintenance staff. Therefore, discussions with these groups need to include information on how renewable energy and energy conservation/efficiency systems work, how much maintenance is required for the systems to maintain optimal performance, how changes in the energy infrastructure will affect current city services, and how energy conservation/efficiency and renewable technologies can be incorporated into the existing physical and energy infrastructure of the city.

3) Examples: Elected officials and other interested parties are very concerned about how other local governments of similar size have incorporated energy efficiency/conservation and renewable technologies into their city infrastructure as well as how they have financed these

items. Examples raise awareness by providing a concrete vision of cost savings through a reduction in energy consumption or energy production and through community involvement in and support for the project.

4) Services and Reliability: Elected officials and other interested parties are likely to see the main role of the city to be that of service provider. Thus, elected officials and other interested parties will be concerned with how energy conservation/efficiency and renewable technologies could help the city maintain or increase the level of services they provide. Interruption of services is not an acceptable outcome for city governments; therefore, any new systems must be reliable and at least able to maintain current levels of services. This issue ties back to budget concerns since energy conservation/efficiency and renewable energy could cut costs or generate energy, thus enabling the city to provide additional services or reduce the cost of services provided.

Other Important Ideas/Points of Interaction:

The following are other possible points of interaction with local government officials which may be helpful.

- Health factors
 - More natural light will be beneficial for city officials and others using the building.
- Long-term planning - renewable technologies require long-range planning in terms of energy and financing.
- Economic development opportunities

CERTs Goals for Interaction with Local Governments

The following are overarching goals communications with elected officials and other interested parties. Not all of the goals need to be accomplished in the first meeting; however, all are important to the success of introducing conservation/efficiency and renewable energy technologies to cities and citizens, to establishing a positive working relationship, and to fulfilling the mission of CERTs.

1. Provide examples about what other similar sized local governments are doing to conserve energy and utilize renewable energy technologies.
2. Raise awareness of the full cost of current energy usage and the potential for future cost savings through conservation/efficiency and renewable energy technologies.
3. Utilize the project or education event as an opportunity to reach out to the community and educate citizens about energy issues.
4. Present technology and financing options in a pragmatic way so that local government officials see them as a realistic possibility.
5. To act as a resource, connecting local governments with information they need to make decisions about and implement renewable energy, conservation and efficiency measures.

Resources and Education Techniques

The focus of all communications with local governments should be to educate city officials and other interested parties about energy conservation/efficiency and renewable technologies. The most valuable resource CERTs has in this endeavor is the knowledge, skills and resources within the team. Teams have access to technical knowledge of energy technologies and funding sources which are the critical knowledge gaps for the city officials interviewed. By providing easy access to this information through constructive dialogue with the sector, CERTs will market themselves as a capable and skilled resource to city officials. In turn, these resources will hopefully appeal to city officials and increase their willingness to find ways to utilize energy conservation/efficiency techniques and clean energy.

CERT representatives should be aware of and seek to utilize adult experiential education techniques in order to effectively connect with and convey information to the participants. By involving the learners in a concrete experience such as a video demonstration or case study, CERTs can more effectively engage participants in the workshop. Following these activities, a discussion of possible technologies and the costs and benefits of these options will be helpful to assist agricultural producers in applying the lessons of the case study to their own business. It is very important to respect the time constraints of local government officials and keep meetings brief (1-2 hours) unless more time is requested.

Planning Your Meeting

These suggestions are intended to be used for an initial meeting with local government officials and other interested parties. It is not necessary to utilize all of the suggestions in one meeting, but rather to pick which ideas are most useful for a particular interface.

Time length: 1-2 hours

Suggestions:

- 1) Introductions
- 2) CERTs Presentation
 - *Very brief introduction of CERTs
- 3) Discuss the challenges cities face in regards to energy in buildings and fleets?
 - a) What do cities see happening to city services in the future if they maintain the status quo?
 - City officials will likely identify rising costs for fuel, heat and electricity as their largest challenges regarding energy. They may see the need to change or reduce services or raise taxes to cover rising energy costs. The key point may be to identify ways to mitigate some of these concerns through conservation/efficiency efforts and renewable energy technologies while validating their budget constraints.
- 4) Presentation of examples of how other cities of similar size are utilizing renewable or conservation/efficiency technology.
 - This should be 2-3 examples from a city of similar size and should include how they implemented energy changes, how these changes were financed, and if community support was utilized to make the changes.
 - Utilizing examples is the best way to address the inevitable questions about cost, budgets, and financing. These will be the most important issues for the elected officials, administrators and other interested parties. The focus should not be on specifics, but rather that there are a multitude of options in a wide range of costs, the cost savings from implementing these options and financing arrangements available and are realistic.

- 5) Budget Issues
 - a) How can conservation/efficiency and renewable technologies impact the budget situation.
 - a) Full cost of energy choices (environment.)
 - b) Future cost savings from options.
 - b) Describe financing options and resources available
 - Budget and finance issues will undoubtedly raise the issue of taxes and levies and citizen involvement in the process.
- 6) Importance of community involvement in energy conservation/efficiency and renewable energy technologies.
 - Community involvement will be critical if renewable energy technologies or other costly options are chosen. Cities see the provision of services as their main responsibility to citizens. To the extent that any energy decision they make affects service provision or taxes, the city will need to involve citizens in the process.
- 7) Sources of Information/Resources
 - a) Auditors
 - b) Weidt group
 - c) CERT's
 - d) Experts
 - e) Internet sources
 - f) Financial resources
- 8) Questions from participants and any further discussions.

Information Packet

The following items could be included in an information packet to leave with city officials:

- Contact information for CERTs
- Case studies from other local governments
- Information regarding conservation/efficiency and renewable energy technologies. Also, where to find additional information.
- Financing resources

Evaluation Form

It is important to have participants evaluate their experiences in the workshops. The following are useful evaluation tools that can be used to improve further contact with the sector.

Directions: Please fill out the evaluation and give it to a CERTs member before you leave. Thank you for taking the time to assist us in improving our workshops.

1. Did you find the information presented in the workshop useful for your city?

- Very Useful
- Somewhat Useful
- Not Useful

2. Was there any part of the workshop that could be improved?

- Yes
- No

If Yes, please explain briefly. _____

3. Is there additional information you would like to see included in future workshops?

- Yes
- No

If Yes, please explain briefly. _____

4. General Comments:

Yes, I would like to be contacted by a CERTs member to receive more information on energy efficiency/conservation and/or renewable energy technologies.

Name: _____ Phone: _____

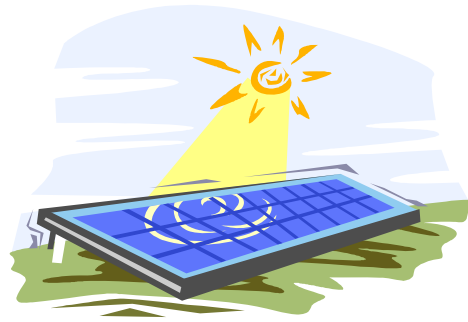
Additional Contact Opportunities with Local Governments:

- Meet with city officials to propose ideas. This could include city planning or council meetings, meeting with the mayor or city manager, etc.
- Energy Conference/Additional Workshops
- Create materials to give to cities in meetings with them to help them understand the potential of renewable energy, conservation/efficiency and retrofitting.
- Workshops for city officials to identify their most pressing energy needs and what they might do about them.
- Partner with one city on a small project.
- Create a website specific to small cities with projects ideas from other cities and information about renewable technologies, conservation/efficiency, and retrofitting.
- Create energy usage and prioritization activities for officials.
- Set up an opportunity for city officials to tour other cities utilizing renewable energy technology.
- Association meetings.



Clean Energy Resource Team Guide to Interaction with Schools

Olmsted County CERTs
Created: Fall 2005



Guide to Interaction with Schools

Table of Contents:

Introduction	2
Methodology	3
Summary of Interviews with School Officials	4
Important Ideas from School Officials	6
Goals for Interaction with School Officials	8
Resources and Education Techniques	9
Planning Your Meeting	10
Evaluation Form	12
Additional Contact Opportunities	13
Appendix:	
Information from the Pilot	14
Evaluation Results from Pilot	15
Follow-up Opportunities	16

Case Studies 17

Executive Summary

This guide is designed to assist local Clean Energy Resource Teams (CERTs) in facilitating exchanges with school administrators, curriculum designers, facilities and maintenance staff and other interested parties. The important ideas, points of interaction, goals and possible contact opportunities are meant to be applicable to a wide variety of school districts, but specific enough to give clear ideas of what is important to schools and how energy efficiency/conservation and renewable energy technologies can be presented successfully. Groups may want to do additional research on their local school districts in order to learn if there are specific issues they are seeking to address through energy options.

The goal of working with schools is to provide relevant and useful information to enable schools to make decisions about energy consumption, raise awareness of the full cost of energy and educate citizens about energy issues. These goals can be accomplished by utilizing CERT's members and resources to assist schools in making more informed choices regarding energy.

The key points to consider when working with schools:

- Budget constraints of schools
- Maintenance concerns
- Examples of what other schools have achieved are important to conveying the message
- Reliability of equipment and the source are concerns for school officials.

Schools are likely to require information on the following in order to implement any energy savings or renewable energy programs:

- Energy Audits
- Benchmarking
- Financial Resources
- Resources regarding energy conservation/efficiency options and renewable technologies.

Methodology

Guides for interaction with schools, local governments and the agricultural community were created for CERTs groups through a grant from the CAP program at the University of Minnesota. The information in the guides was obtained through a literature review and interviews with school officials, local government officials and agricultural producers. In general, the three sectors shared similar concerns regarding energy, conservation/efficiency and renewable technologies. Local governments and schools in particular shared many of the same issues and concerns. The interviews utilized in the school guide were conducted with a district superintendent, a school board member and a facilities coordinator – all from districts in Olmsted county.

Summary of Interviews with Schools:

Interviews with school officials indicated that the primary concern of schools in Olmsted County is their budget. School officials suggested that they do not have enough resources to fulfill their current mission (retain teachers, provide quality education, etc.) let alone take on the task of implementing renewable energy technologies in their districts. One school official said that “Budgets are the most important thing in the school district since we are always budgeting for the next year. How we are utilizing resources is very important and frequently discussed.

Budget restrictions and rising energy costs have lead schools to look at energy conservation/efficiency as a means of saving money. Some of the districts have taken active steps on this issue to replace lights and attempt to cut transportation costs in order to stay within their energy budget. The greatest energy costs in the schools consulted are for heating and cooling, transportation, and electricity. Budget constraints restrict the investment capital schools have for making major building renovations or changes such as those needed to install renewable energy. This makes conservation/efficiency options more attractive because of the lower investment cost. Most of the school officials interviewed are personally concerned about the environment, however the environment is not a primary concern when making decisions about energy in the schools. During the pilot of this guide, school officials raised the issues of air quality, lighting and health as concerns related to energy and their facilities.

There may be opportunities for schools to work collectively in the area of transportation services, especially if they are all contracting with one or two companies for their bus services. School officials again seem to be most concerned with budget and safety issues surrounding transportation, especially as rising fuel costs are passed on to schools, directly impacting their cash flow and budgetary processes.

Interviews indicated schools would consider the following factors in making a decision to utilize renewable energy or conservation/efficiency techniques: 1) initial costs, 2) replacement and maintenance costs (including personnel,) 3) future benefits/length of time to recoup costs of initial investment, 4) reliability of both the source of the energy (ie. biodiesel) and equipment and 5) necessity of remodeling existing buildings/would they lose space. It is very important for schools to know how these items would affect their existing budget, structures and personnel before making any decisions.

Options presented to the schools must be framed in both cost-saving/budgetary and environmental frameworks. Conservation/efficiency techniques are most likely to be accepted by schools since they require a smaller initial investment and will likely produce immediate financial benefits. While items such as furnishings and carpet are not as important to energy, there may be potential to introduce more environmentally friendly options for items such as carpet.

Finally, as one school official noted, “People think of solar and wind, and don’t really have a concept of what might be out there as options, there is a lack of knowledge regarding renewable energy.” School officials know that energy conservation/efficiency is important and that renewable energy technologies may be useful for their district, however they lack that knowledge necessary to utilize them in their districts.

Four Most Important Ideas from Schools

During interviews with school officials, it became apparent that budget constraints, maintenance issues, examples from other schools and reliability of the technologies are the most important factors schools will consider when deciding whether to adopt conservation/efficiency and renewable technologies. It is critical to acknowledge these issues as fundamental to all discussions with school officials and incorporate these ideas into future contacts with schools.

1) Budget Constraints: Discussions with school officials have revealed that budget constraints are the most important factor in any decision regarding energy consumption, efficiency/conservation and the utilization of new technologies. School officials interviewed feel that they are on a tight one-year budget cycle and any additional money spent on energy technologies above current costs would reduce funds available for education. A school Superintendent said “Both energy costs and the cost of new technologies if utilized are a huge concern, because they directly affect the availability of funds for educational programs and staff.” School officials discussed three elements of cost during interviews: a) initial cost and length of time to recover initial costs, b) replacement and maintenance costs and c) costs of energy continuing to rise. Due to the limitations of their budget cycle, school officials may be more concerned with initial costs rather than potential savings from energy technologies. Therefore, future exchanges with school officials must include an analysis of the total cost of energy, future savings and resources available to help cover initial costs.

2) Maintenance Issues: School officials are interested in the amount of effort it will take to maintain conservation/efficiency and renewable technologies or recommission current equipment. There is concern that renewable energy technologies would place additional burdens on school maintenance staff, reducing their ability to perform current responsibilities. Discussions should include information on how renewable energy and energy conservation/efficiency systems work, the amount of maintenance required for the systems to maintain optimal performance, and how energy conservation/efficiency and renewable technologies can be incorporated into the existing physical and energy infrastructure of the school district.

3) Examples: School officials are very concerned about how other school districts have incorporated energy efficiency/conservation and renewable technologies into their school infrastructure as well as how they have financed these items. Examples raise awareness by providing a concrete vision of cost savings through a reduction in energy consumption or energy production and school and community involvement in and support for the project. School officials may also be interested in how other school districts have incorporated energy conservation and renewable technologies into the curriculum by involving teachers, staff and students in the process.

4) Reliability: School officials are concerned with the reliability of the source and the equipment, especially with renewable energy technologies. Since budgets are very tight, schools want equipment that is reliable and does not require a lot of maintenance to continue functioning. One school official mentioned that schools cannot afford to lose school days if energy equipment is not functioning properly.

CERTs Goals for Interaction with Schools

The following are overarching goals for communications with school officials. Not all of the goals need to be accomplished in the first meeting, however all are important to the success of introducing conservation/efficiency and renewable energy technologies to schools fulfilling the mission of CERTs.

1. To respond to concerns expressed by school officials by presenting information about what other school districts are doing to conserve energy and utilize renewable energy technologies.
2. Raise awareness of the full cost of current energy usage and the potential for future cost savings through conservation/efficiency and renewable energy technologies.
3. Utilize the project or education event as an opportunity to reach out to the community and educate citizens about energy issues.
4. Present technology and financing options in a pragmatic way so that school officials see them as a realistic possibility.
5. To act as a resource, connecting schools with information they need to make decisions about and implement renewable energy, conservation and efficiency measures.

Resources and Education Techniques

The focus of all communications with schools should be to educate school officials and other interested parties about energy conservation/efficiency and renewable technologies. The most valuable resource CERTs has in this endeavor is the knowledge, skills and resources within the team. Teams have access to technical knowledge of energy technologies and funding sources which are the critical knowledge gaps for the school officials interviewed. By providing easy access to this information through constructive dialogue with the sector, CERTs will market themselves as a capable and skilled resource to school officials. In turn, these resources will hopefully appeal to school officials and increase their willingness to find ways to utilize energy conservation/efficiency techniques and clean energy.

CERT representatives should be aware of and seek to utilize adult experiential education techniques in order to effectively connect with and convey information to the participants. By involving the learners in a concrete experience such as a video demonstration or case study, CERTs can more effectively engage participants in the workshop. Following these activities, a discussion of possible technologies and the costs and benefits of these options will be helpful to assist agricultural producers in applying the lessons of the case study to their own business. It is very important to respect the time constraints of school officials and keep meetings brief (1-2 hours) unless more time is requested.

Planning your Meeting

These suggestions are intended to be used for an initial meeting with school officials and other interested parties. It is not necessary to utilize all of the suggestions in one meeting, but rather to pick which ideas are most useful for a particular interface.

Time length: 1-2 hours

Suggestions:

- 1) Introductions
- 2) CERTs Presentation
 - *Very brief introduction of CERTs
- 3) Discuss what challenges do schools face in regards to energy.
 - *This question is designed to involve school officials in identifying energy challenges schools are facing now and in the future.
 - a) What do schools see happening to their energy budget in the future if they maintain the status quo?
 - Schools will likely identify rising costs for heat, electricity and fuel as their largest challenges regarding energy. They will be concerned about the rising costs but it is unlikely that they will feel they have the resources to solve the problem. The key point may be to identify ways to mitigate some of these concerns through conservation/efficiency efforts and renewable energy technologies while validating their budget constraints.
- 4) Presentation of examples of how other schools are utilizing renewable or conservation/efficiency technology.
 - This should be 2-3 examples from other schools and should include how they implemented energy changes, how these changes were financed, and the support necessary to make the changes.
 - Utilizing examples is the best way to address the inevitable questions about cost, budgets, and financing. These will be the most important issues for school officials. The focus should not be on specifics, but rather that there are a multitude of options in a wide range

of costs, the cost savings from implementing these options and financing arrangements available and are realistic.

5) Budget Issues

- a) How can conservation/efficiency and renewable technologies impact the budget situation.
 - a) Full cost of energy choices
 - b) Future cost savings from options.
- b) Describe financing options and resources available
 - To obtain the funds necessary, the school may need to utilize all of its resources.

6) Importance of the whole school community being involved in energy conservation/efficiency and renewable energy technologies.

- School and community involvement will be critical if renewable energy technologies or other costly options are chosen. There is potential for school districts to involve students and staff in the process through curriculum and other methods.

7) Sources of Information/Resources

- a) Auditors
- b) Weidt group
- c) CERT's
- d) Experts
- e) Internet sources
- f) Financial resources

8) Questions from participants and any further discussions.

Information Packet

The following items could be included in an information packet to leave with school officials:

- Contact information for CERTs
- Case studies from other school districts
- Information regarding conservation/efficiency and renewable energy technologies. Also, where to find additional information.
- Financing resources

Evaluation Form

It is important to have participants evaluate their experiences in the workshops. The following are useful evaluation tools that can be used to improve further contact with the sector.

Directions: Please fill out the evaluation and give it to a CERTs member before you leave. Thank you for taking the time to assist us in improving our workshops.

1. Did you find the information presented in the workshop useful for your school district?

- Very Useful
- Somewhat Useful
- Not Useful

2. Was there any part of the workshop that could be improved?

- Yes
- No

If Yes, please explain briefly. _____

3. Is there additional information you would like to see included in future workshops?

- Yes
- No

If Yes, please explain briefly. _____

4. General Comments:

Yes, I would like to be contacted by a CERTs member to receive more information on energy efficiency/conservation and/or renewable energy technologies.

Name: _____ Phone: _____

Additional Contact Opportunities with Schools:

- One-on-one with the business manager who is likely to be the best contact within the school districts for cost-benefit analysis of the issue.
- Renewable energy curriculum.
- Informational materials which can be given to schools during/after a meeting. This could include various options, what energy costs can be lowered, how this option has worked in other schools, how the option would change their buildings physically, total cost accounting information, maintenance information, etc.
- Workshops for school officials to identify their most pressing energy needs and what they might do about them
- Partner with one school on a small project.
- Create a website specific to schools in Olmsted County (size and resources) with projects ideas from other cities and information about renewable technologies, conservation/efficiency, and retrofitting.
- Create energy usage and prioritization activities for officials.
- Energy Conference/Additional Workshops
- Association meetings.

Information from the Pilot

Agenda, how things went, what exactly happened, who was there?

“Low cost – no cost”

- Benchmarking
- Audits
- Recommission
- Grants and Low Interest Loans

Evaluation Results from Pilot

ENERGY IN SCHOOLS - Evaluations

January 10, 2006

1. What did we do well?

- Good presentation - good contact information - provided a lot of different ideas to approach energy savings - what to look for.
- Informative - web sites - Benchmarking info – Audit.
- Did not know there were people out there to help. Valuable information was offered in several areas, innovative ways of dealing with your energy problems.
- Getting us together in a welcoming atmosphere/environment.
- It was very good. Lots of info. Liked the small group so we can talk to each other about what we do differently.
- Created awareness of multiple opportunities and issues that effect energy efficiency.
- Gave awareness of renewable energy options.

2. What should we have done differently?

- Provide a copy of the power point presentation.
- Identify specific cost savings, energy ideas for schools
- This was new to me. Anytime you can acquire new information is valuable to all staff.
- More specific examples of benchmarking, more information on finding grants and energy, loans, - resources.
- Keep it the same.
- Get into a few deeper specifics of some ways to “get started.”
- Need more on renewables.

3. What information did you not get that you would like to have?

- Maybe more about what local schools are doing to save energy (survey) or copies of -
- Provide audit resources/vendor lists (lists, contact info.)
- Information provided was very valuable to me. I will think about ways of improving our building.
- More information/contacts on renewables - and energy audits.
- Sources of information for renewable energy.

Follow Up Opportunities