REPORT ON THE
CLEAN ENERGY RESOURCE TEAMS (CERTs)
PROJECT

PHASE ONE: ANALYSIS OF ONLINE SURVEY
OF CERTs PARTICIPANTS

by

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I.   Introduction

This document is the first phase of the 2007 project evaluation of the Clean Energy Resource Teams (CERTs). The report analyzes the results of an online survey of CERTs participants conducted in January 2007. The second phase of this report will be an analysis of focus group discussions with team members from each of six regions (Central, Northeast, Northwest, Southeast, Southwest, and West Central). The second phase will be completed by September 2007.

In May 2005, an initial evaluation of CERTs was completed which included surveys of CERTs participants who attended regional meetings. Where possible, this report will make comparisons between the survey results, although it should be noted that the populations surveyed differ in potentially significant ways as do the nature of the questions that were asked in this second round of evaluations. While the 2005 evaluation surveyed those in attendance at CERTs meetings (n = 59 respondents), the present survey was e-mailed to all those identified by CERTs staff as having a prior or on-going relationship with a CERTs team and whose contact information was maintained on an electronic distribution list (n = 117 respondents). Also, while the 2005 evaluation focused primarily on motivations for participation and knowledge of participants, the present survey asked additional questions concerning the current impact, perceived successes, and future direction of CERTs.

II.   Demographic Characteristics

The age range of participants remains quite varied. In 2005, the youngest member surveyed was 30, while the oldest was 91 years of age. In this survey, the numbers are similar. While a few respondents are in their mid-20's and a few in their 70's, including one self-identified "geezer", most are in-between these extremes. The gender difference identified in 2005 (only nine women out of 59 respondents) is less pronounced in this survey, with 34 women (30 percent) and 81 men (70 percent). The focus groups exhibited a similar gender difference, with more men than women participating in those discussions.

Survey respondents were fairly evenly distributed across CERTs regions, with Southeast and West Central having the highest rates of participation (24 percent and 23 percent, respectively), followed by Central (21 percent), Southwest and Northeast (16 percent and 15 percent), and Northwest (9 percent).

## III.	Individual Participation and Knowledge

The CERTs project has developed a highly devoted cadre of participants. Most of the survey respondents have been involved in CERTs for three years (35 percent), followed by two years (28 percent), and then one year (18 percent); fewer than one in five have been involved for less than one year (19 percent).

When asked an open-ended question about why they have remained involved with CERTs, responses tended to fall in a few different, yet overlapping, categories. Many respondents report remaining involved in order to gain knowledge, noting that CERTs provides "good information that is not easily available," as well as "access to local solutions to global issues." Respondents also emphasized community-related factors, i.e., that they enjoy working with like-minded people, networking, making contacts, and creating friendships. These views are consistent with 2005 survey results showing that material benefits such as lower electricity prices or individual financial benefits were fairly negligible motivating factors. As one respondent wrote, "CERTs allows people to feel like they are not acting or working alone on issues, but are actually a part of a large, and more powerful, group of people." As demonstrated by the following comments, for many participants, CERTs is considered to be an organization that can "make a difference,"

> "CERTs supports the good intentions of the civic-minded."

> "I have grandchildren. I want them to have a world that they can live in without excessive global warming and the resultant wars over dwindling natural resources."

> "The government hasn't done anything to fix the energy problems, so it's up to the people to try to find solutions."

> "CERTs is a great example of what can happen when the 'grass roots' take action. The direction is good, the goals are admirable, and the program is relatively transparent."

An important question for CERTs is the manner in which people participate in the project. Table 1 compares 2005 survey responses to 2007 survey responses in terms of levels of participation among CERTs participants. Not surprisingly for an online survey, electronic participation accounts for the highest level of participation in 2007 (71 percent), followed by attendance at conferences (49 percent). Importantly, however, while the *number* of people attending quarterly meeting has remained stable between 2005 and 2007, the *percentage* of total participants who participate in face-to-face meetings fell across the two time periods. This theme will be analyzed further in the second phase of this evaluation, as some focus group participants discussed the leveling off of attendance at CERTs meetings and the need to attract more potential members to meetings.

Table 1: Levels of Participation Among CERTs Participants
(Question Asks: How do you participate in CERTs (mark all that apply))

	2007 *n = 117*	*2005* *n = 59*
Electronic participation	71 % (83)	58 % (34)
Attend conference	49 % (57)	N/A
Attend quarterly meetings	42 % (49)	83 % (49)
Attend small group meetings	35 % (41)	54 % (32)
Other participation	16 % (19)	17 % (10)

There are a few regional differences across levels of participation worth noting. Survey respondents in all six regions reported the highest rates for electronic participation, a form of participation is likely to be even more pronounced in the future as at least one region (the Southwest) will soon be launching a new website with interactive capacities. The second highest form of participation differed across regions. Attending a CERTs conference, as opposed to quarterly meetings, was the second most common way to participate in the Central, Northwest, Southwest, and West Central regions, while attendance at quarterly meetings (Northeast) and attendance at small group meetings (Southeast) came in second in other regions. Since quarterly meeting attendance is a topic addressed in the focus group discussions, Table 2 focuses on regional differences across that category of participation.

**Table 2: Reported Quarterly Meeting Attendance
Across CERTs Regions**

Northeast	67 %	(12 out of 18 respondents)
West Central	63 %	(17 out of 27 respondents)
Northwest	46 %	(5 out of 11 respondents)
Central	32 %	(8 out of 25 respondents)
Southeast	21 %	(6 out of 28 respondents)
Southwest	11 %	(2 out of 19 respondents)

Beyond the length and nature of participation in CERTs, survey respondents were asked to assess their own levels of knowledge about various terms and issues central to energy policy. As seen in Table 3, most respondents self-identified as having "some" knowledge about every term, with the exceptions of "energy efficiency/conservation" and "environmental impacts of energy use"; in these cases most respondents reported having "a great deal" of knowledge. Thus, CERTs participants identified themselves as knowing a great deal about energy efficiency/conservation (49 percent), environmental impacts of energy use (49 percent), ethanol/biodiesel (29 percent), the current electrical system and wind technology (both at 27 percent), accessing technical resources for an energy efficiency/renewable energy project (24 percent), and electric transmissions and distribution (23 percent). It is interesting to note that although 24 percent reported knowing a great deal about how to access *technical resources* for an energy efficiency/renewable energy project, only 11 percent had a similar level of knowledge about accessing *funding sources* for such a project, and 33 percent identified as having very little knowledge concerning such funding sources. When it comes to other areas of very little knowledge among CERTs participants, hydrogen technology/fuel cells tops the list (42 percent), followed by biogas/anaerobic digesters (34 percent), the previously noted funding sources (33 percent), biomass for electricity/heat (28 percent), solar technologies (21 percent), and accessing technical resources for an energy efficiency/renewable energy project (21 percent). This last category of accessing technical resources for an energy efficiency/renewable energy project is noteworthy in its distribution across levels of knowledge among participants, with close to one-fourth of those surveyed reporting that they know a great deal about it, about half reporting that they have some knowledge, and almost one-fourth reporting that they have very little such knowledge.

Table 3: Self-identified Levels of Technical Knowledge Among CERTs Participants

(Question Asks: How Much Do You Know About …)

	A great deal	Some	Very little
…energy efficiency/ conservation	49 % (57)	48 % (56)	3 % (3)
…environmental impacts of energy use	49 % (57)	49 % (57)	3 % (3)
…ethanol/biodiesel	29 % (34)	62 % (72)	9 % (10)
…the current electrical system	27 % (32)	57 % (67)	15 % (18)
…wind technology	27 % (32)	67 % (78)	6 % (7)
…accessing technical resources for an energy efficiency/ renewable energy project	24 % (28)	55 % (64)	21 % (24)
…electric transmission and distribution	23 % (27)	61 % (71)	16 % (19)
…biomass for electricity/heat	18 % (21)	53 % (62)	28 % (33)
…biogas/anaerobic digesters	17 % (19)	50 % (57)	34 % (39)
…solar technologies	16 % (18)	64 % (74)	21 % (24)
…accessing funding sources for an energy efficiency/ renewable energy project	11 % (13)	56 % (65)	33 % (38)
…hydrogen technology/ fuel cells	10 % (11)	48 % (56)	42 % (49)

These technical knowledge questions follow a similar approach to survey questions in the 2005 evaluation, although a few questions are worded somewhat differently and a few additional options have been included in 2007, making a direct comparison difficult. Table 4 shows the results of these technical knowledge questions in 2005, where a few overall comparisons can be noted. A high percentage of CERTs participants reported a great deal or some level of knowledge about all of the technical issues asked about on the 2005 survey. On the other hand, respondents reported having very little knowledge about fuel cells, biogas and/or anaerobic digesters, and solar panels (41 percent, 31 percent, and 24 percent, respectively). These same categories were noted in the discussion of Table 3 above, as areas where respondents reported very little knowledge in 2007 as well (42 percent, 34 percent, and 21 percent, respectively).

Table 4: Self-identified Levels of Technical Knowledge
Among CERTs Participants (2005)
(Question Asks: How Much Do You Know About …)

	A great deal / Some	Very little
…energy efficiency / conservation	89 % (52)	10 % (6)
…wind technology	88 % (52)	10 % (6)
…environmental impacts of energy use	88 % (52)	10 % (6)
…the current electrical system	80 % (47)	19 % (11)
…biomass for electricity / heat	78 % (46)	19 % (11)
…ethanol / biodiesel	78 % (46)	20 % (12)
…solar panels	74 % (44)	24 % (14)
…biogas / anaerobic digesters	68 % (40)	31 % (18)
…fuel cells	58 % (34)	41 % (24)

Related to the amount of technical knowledge is the type of information needed to effectively participate in CERTs. Table 5 shows the results of this line of inquiry, demonstrating the multiple types of information which CERTs participants regard as important for effective participation. "Somewhat important" is the most common refrain when asked about various types of knowledge needed to effectively participate in CERTs, with knowledge of communications and energy technologies/options ranked as very important (both 43 percent). Knowledge of community development (39 percent) and public relations (33 percent) were also considered very important. Legal and engineering knowledge were considered not important by 38 percent and 32 percent of respondents, although it should be noted that most respondents identified such knowledge as somewhat important for effective participation in CERTs.

Table 5: Participants' Views of Types of Information Needed to Effectively Participate in CERTs

	Very Important	Somewhat Important	Least Important
Communications	43 % (50)	46 % (54)	11 % (13)
Energy Technologies/ Options	43 % (50)	49 % (57)	9 % (10)
Community Development	39 % (46)	48 % (56)	13 % (15)
Public Relations	33 % (38)	53 % (62)	15 % (17)
Economic	26 % (30)	58 % (67)	16 % (19)
Engineering	20 % (23)	49 % (57)	32 % (37)
Legal	7 % (8)	56 % (65)	38 % (44)

Knowledge of communications is ranked as very important (43 percent), so it is surprising that in another survey question, 19 percent of respondents reported that they do not share CERTs-related information with members of their local community. While 81

percent of respondents do share such information, considering the educative role of CERTs as well as the importance that CERTs participants attach to serving their community, it seems particularly important to determine why nearly one-fifth of CERTs participants do not engage in such communication. Again, regional differences are worth noting, as participants in some regions are more likely to be sharing CERTs-related information with members of their local community than participants in other regions (see Table 6).

Table 6: Reported Sharing of CERTs Information Across CERTs Regions
*(Question Asks: Do You Currently Share CERTs-related Information
With Members of Your Local Community?)*

	Yes	No
Northeast	89 % (16)	11 % (2)
Southeast	89 % (24)	11 % (3)
West Central	78 % (21)	22 % (6)
Central	76 % (19)	24 % (6)
Northwest	73 % (8)	27 % (3)
Southwest	69 % (13)	32 % (6)

IV.   CERTs' Role

While the first part of the survey focused more on the individual participants within CERTs, the remaining sections focused more on the organization itself – its effectiveness in communicating with members, its potential role in project development, perceived successes in the region and state, and ideas concerning the future direction of CERTs.

CERTs received very positive ratings when it came to communication with members, with "very effective" as the most common response in almost every category of communication.   The sole exception was the webpage, which was considered

"somewhat effective" by the highest percentage of respondents. This is consistent with a few of the focus group discussions, in which general thoughts about improving the website were mentioned.

The real story of Table 7, however, is the high percentage of "don't know" responses to the effectiveness of team meetings (25 percent), webpage (21 percent), and case studies (18 percent). Fact sheets (14 percent), workshops (14 percent), tours (13 percent), and conferences (11 percent) also garner rather high percentages of "don't know" responses. These results indicate that while CERTs members who receive and employ such methods of communication are impressed with what CERTs provides, there are also a fairly large number of participants who are not familiar with the various communication channels offered by CERTs.

Table 7: Effectiveness of CERTs Communications
(Question Asks: How Effective Are Each of the Following Methods …)

	Very Effective	Somewhat Effective	Least Effective	Don't Know
E-mails	65 % (75)	33 % (38)	1 % (1)	2 % (2)
Conferences	56 % (64)	31 % (36)	2 % (2)	11 % (13)
Monthly Updates	49 % (57)	41 % (47)	3 % (3)	8 % (9)
Tours	47 % (53)	35 % (40)	4 % (5)	13 % (15)
Workshops	46 % (54)	37 % (43)	3 % (4)	14 % (16)
Fact Sheets	41 % (47)	41 % (46)	5 % (6)	14 % (16)
Case Studies	40 % (45)	40 % (45)	4 % (4)	18 % (20)
Team meetings	36 % (41)	34 % (39)	5 % (6)	25 % (28)
Webpage	27 % (31)	50 % (57)	3 % (3)	21 % (24)

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When it comes to the roles that CERTs should play in project development, respondents saw many roles as appropriate, as shown in Table 8. More than 90 percent of respondents considered education/information sharing and facilitating connections to resources as roles appropriate to CERTs, as well as advisory (70 percent), expertise (69 percent), and seed funding (62 percent). Only 21 percent of respondents thought that CERTs should play a role in overall project funding and no respondents thought that CERTs had no role to play in project development.

Table 8: Role for CERTs in Project Development
(Question Asks: What Role Should CERTs Play in Project Development
(mark all that apply))

Education/Information Sharing	92 %	(106)
Facilitate Connections to Resources	91 %	(105)
Advisory	70 %	(80)
Expertise	69 %	(79)
Seed Funding	62 %	(71)
Overall Project Funding	21 %	(24)
Other	12 %	(14)
None	0 %	

V.   CERTs' Impact and Potential: In Their Own Words

The last section of the survey asked a specific question about CERTs staffing followed by more general questions about reasons for the success of CERTs in the region and state. The survey ended with a question on the future direction of the organization. These questions were open-ended, meaning that respondents could type in their own answers rather than choosing from a set of given responses.   In this section, overall trends across responses will be discussed.

Staffing

The question about staffing was a bit complex, as it required some background information and had two dimensions. The question asked: "The University of Minnesota Regional Sustainable Development Partnerships has 2 full-time CERT staffers who cover 5 of the 6 CERT regions. The Southwest Regional Development Commission staffs the

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6th region. In addition, one team has a part-time regional staffer. Would there be a benefit to having regional CERT staff for all teams? If so, how do you envision regional staff assisting with CERTs?" Basically, the question asked whether there would be a benefit to having regional staff for all teams, and how that idea might actually work in practice. A small minority of respondents wrote only that additional staff would not benefit the organization, or that the current system seems to be working, while a few respondents mentioned potential negative consequences of regional staffing, in that the present system of staffers covering multiple regions facilitates information-sharing among regions. Most respondents considered the problems that the current staffers face when answering this question.   Some comments reflected the difficulty of trying to provide a consistent presence across a large geographic area with very few staff, all of whom are based in the Twin Cities:

> "They are outsiders trying to help people they don't know."

> "It is tough to coordinate regional CERTs efforts."

> "They don't really do enough about outreach, because people who have
> been involved as activists for years have never heard of the organization."

> "CERTs staff should not be concentrated in one area. Now it is
> concentrated to where the developers and planners have been going.
> They need to balance themselves in the whole process in every region."

A few respondents questioned whether there would be funding for new staffers; others addressed such funding questions by suggesting the use of college interns in each region. Overall, there was support for regional staffing, with many ideas as to what new staffers could do to assist with CERTs (educating public, administrative tasks, outreach, facilitating start-up work for regional projects, organizing regional conferences and meetings). A representative look at the collective rationale for regional staff follows:

> "As pressure for renewable energy grows, more CERTs presence
> will be needed."

> "Each region should have staff because this would increase the work,
> contacts, and information received. Each region is different, so it would
> make sense to have staff in each one that would know their area."

> "Current staffers may be getting stretched thin with all that they are
> supposed to be doing, so turning some responsibilities over to other
> people would free up current staffers to focus more on other projects
> within CERTs."

> "Having staff would be good because volunteers have certain areas
> of expertise and passion, and do not want to do administrative work."

"I think if every team had a staff member we could accomplish a TREMENDOUS amount. As it is now, citizens are donating their volunteer time, sometimes irregularly or very little. This makes it more difficult to get projects done. Also, many citizens are not very good communicators and they don't get the word out effectively about their activities and projects. A staff member could provide communication assistance."

Measuring Success

A critical question for any community-based effort is whether or not participants consider the project or organization to be a success. In this regard, CERTs does extremely well: some 88 percent of respondents (93) consider CERTs to have been a success in their region while 12 percent (13) do not. Some regional variation exists, as shown in Table 9.

Table 9: Reported Regional Success Rate Across CERTs Regions
(Question Asks: In Your Opinion, Has CERTs Been a Success in Your Region?)

	Yes	No
Northeast	94 % (16)	6 % (1)
Southeast	89 % (24)	11 % (3)
Central	82 % (17)	18 % (4)
West Central	78 % (21)	22 % (6)
Northwest	73 % (8)	27 % (3)
Southwest	69 % (13)	32 % (6)

Interestingly, more respondents consider CERTs to be more of a success in the state than in their region. Ninety-five percent (96) of respondents answer affirmatively when asked about the success of CERTs in Minnesota, while only 5 percent (5) do not. Of course, clear majorities of respondents consider the organization to be successful in

both venues, with very low numbers of respondents not viewing CERTs as successful in either their region or the state. The survey also asked about specific reasons why respondents would consider CERTs to be successful or unsuccessful in their region and the state. A representative sampling of responses from each category follows.

Reasons for considering CERTs successful in region:

"A growing number of decision-makers know about the organization."
"Dialogue between local, state, and federal levels along with schools, businesses, and the energy industry."
"Increased awareness on issues."
"Low drop-out rate."
"Becoming the go-to group for information."
"Projects that would have either not happened or been slow to develop have been completed as a result of CERT contacts and networking."

Reasons for considering CERTs unsuccessful in region:

"Huge energy problems that are getting worse."
"Small steps may be a distraction wrapped in unrealistic hopefulness. Anything else done gives false hope and displaces more meaningful efforts."
"Unknown in the area to most citizens, even those active in energy issues."
"Building networks and increasing awareness hasn't yet translated into increased public awareness."
"Renewable energy involves expensive 'gear' which CERTs does not pay for; they pay for advice, engineering and services. Some people see this as a waste of money and would rather if money was spent on useful things."
"Program is too new to say that it has been successful."

Reasons for considering CERTs successful in the state:

"Stimulated broad-based interest and participation."
"Maybe more wind development than would have occurred without CERTs."
"Large number of people who came to the recent conference, for different reasons."
"They have successfully connected citizen-driven ideas with funding organizations and other organizations that have professional expertise."
"The governor and the legislature are finally going to do something to promote renewable energy on a statewide basis. It's about time."
"It joins otherwise disjointed but important efforts which is key for mass acceptance and universal paradigm shift."

Reasons for considering CERTs unsuccessful in the state:

"We need to see more policy changes."
"Need more public action."

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"People are not aware that CERTs exists."
"Absence of adequate media coverage."
"Don't know – only know how CERTs is going in own area."
"It has been successful but I feel that 99.9 % of the potential for CERTs has yet to be realized."

Future Directions

The last item on the survey was an open-ended question concerning the future direction of CERTs. This topic will be further addressed in the second phase of this report, as it was an integral part of the focus group discussions with CERTs participants in each region. On the survey, 28 percent (33 of 117 respondents) skipped this question, which could either indicate uncertainty or survey fatigue, or both. Among those who answered the question, there was a recurring theme of continuing the work that is being done now, as in "We still have a lot to learn about energy. Let's stay on the same path until we know it all." Other themes included working with and building on the work of other groups, connecting more with people interested in similar technologies rather than those living in the same regions, getting more people involved, and getting more skilled staff, "…since there is only so much volunteers can do, and they are reaching the point where nothing more will be able to be done." Another theme was incorporating a broader focus on other ways to solve the energy problem, such as exploring the interconnection of energy with other sustainable issues (agriculture and transportation, for example). More demonstration projects and more assistance with finding and securing funding was also suggested, as in "…CERTs should work more on implementing clean energy and less on pulling together various officials and just talking about it." A final theme is one that had been mentioned at various other points in the survey – building awareness of CERTs and increasing its profile in communities across the state.

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APPENDIX : EVALUATION PERSONNEL

Dr. Angela High-Pippert is an Associate Professor of Political Science and Director of Women's Studies at the University of St. Thomas (St. Paul, MN).   Her recent publications include "'What a Couple of Sweethearts': Women Running for Congress in Minnesota" and "See Jane Run: The Minnesota Women's Campaign Fund" in the last two editions of *Perspectives on Minnesota Government and Politics*, and "A Million Moms, MADD Mothers, and Feminists: Media Coverage of Women Activists" in *Women in the Media: Diverse Perspectives*.   She has also published in *Women in Politics* and is currently researching citizen participation in community-based energy projects with Dr. Hoffman.

Dr. Steven M. Hoffman is a Professor and Chair of Political Science and former director of the Environmental Studies Program at the University of St. Thomas (St. Paul, MN) and a Senior Policy Fellow at the Center for Energy and Environmental Policy at the University of Delaware. He has authored several books, including *Governing the Atom: the Politics of Risk* (co-edited with Dr. John Byrne) and is the principal editor for the last several editions of *Minnesota Politics and Policy*. He has also published and written numerous journal articles, technical reports, and conference papers, including a number on community energy and the transformation of the electrical system. Dr. Hoffman is active in the politics of Minnesota environmental policy, having served on the Boards of Directors of several state-wide environmental policy and advocacy organizations.