

# **Kiowa County Community Wind Farm Research Summary Report**

December 7, 2010

Prepared for: Dr. Deborah Ballard-Reisch

Prepared by: Katie Le, Katie McConnell, Ashley  
Rosenbaum, and Candice Tullis

Team Leader: Shelly Rowley

# Table of Contents

<b>Executive Summary .....</b>	<b>3</b>
<b>Introduction/Methods .....</b>	<b>4</b>
<b>Findings/Conclusions .....</b>	<b>7</b>
<b>A New Mission To Be Green .....</b>	<b>7</b>
Involvement and Decision Making .....	9
Confusion about Wind Energy .....	10
Economic Aspects .....	12
<b>Non-Thematic Findings From Focus Groups .....</b>	<b>13</b>
<b>Recommendations .....</b>	<b>15</b>
<b>Process .....</b>	<b>17</b>
<b>Strengths, Limitations, and Suggestions for Future Research .....</b>	<b>19</b>
<b>References .....</b>	<b>21</b>

# Executive Summary

## Recommendations for Wind Farm Developers

1. Developers should go where people want wind farms.
2. Work with trusted city leaders to get communication going.
3. City leaders should focus on getting information out in multiple platforms.
4. Education shouldn't stop when the wind farm is finished.
5. Build trust with the community and follow up.

## Objective

The purpose of this study was to look into the communication and planning techniques utilized in the Greensburg Wind Farm initiative and to analyze the impacts based on the community's perception about the project.

## Context

On May 4, 2007, an F-5 tornado leveled more than 90 percent of Greensburg, Kansas. This destruction gave the City of Greensburg the unique opportunity to reconstruct the town using a sustainable and green model, and wind energy fit that mission.

## Process

Four WSU Communication graduate students conducted key informant interviews (KII) with 10 influential community members from Kiowa County. These interviews sought to discover information regarding planning/communication and wind farm initiatives. Researchers also conducted three focus groups in Greensburg, Kansas.

## Analysis

Through thematic analysis, four Wichita State University Communication graduate students and their team leader analyzed the data from the key informant interviews and focus groups separately to find emerging themes about the community's unique situation. They then synthesized the results.

## Themes

Themes and consistency drawn from research can provide several conclusions. Overwhelmingly, key informants and focus group participants resonated that the wind farm fit well with Greensburg's mission to be green. Through the planning and decision-making process of the wind farm, three subthemes emerge.

1. Once the community decision to "go green" was made, decision-making was largely left to the "decision makers" and the community of Greensburg was split in involvement.
2. There remains confusion about wind energy and how it works due to a gap in community education.
3. Greensburg had to weigh the economic aspects of a wind farm; largely people are unopposed because they perceive economic benefits and taxes were not raised.

## **Introduction/Methods**

### **Purpose**

The purpose of this study was to look into the communication and planning techniques utilized in the Greensburg Wind Farm initiative and to analyze their impacts on the community's perception about the project. Key informant interviews and focus groups were conducted within Greensburg, Kansas.

### **Methods**

Between September 22, 2010 and October 6, 2010, four WSU Communication graduate students conducted key informant interviews (KII) with 10 adults from Kiowa County. These interviews sought to discover information regarding planning/communication and wind farm initiatives. Phone calls and e-mails were made and sent to set up interview times. Those interviewed were selected by team members based on research about the Greensburg Wind Farm Project and suggestions by other interviewees. Interviews were conducted by phone by one graduate student or in a team setting, in which one person spoke and another typed notes. These interviews were also audio recorded, and lasted 20-30 minutes. After 10 interviews were completed, teammates refined the data within 24 hours, e-mailed data to the class instructor and teammates and then uploaded the data to a file exchange on Blackboard, a classroom tool for file sharing.

The group attempted to contact 22 people. Ten interviews were completed, one was declined and one person was unable to complete an interview. Out of the 10 completed interviews, two were female and eight were male. Education levels ranged from high school graduate/GED to graduate degree. Ages ranged from 30 years old to 82 years old and all were white/Caucasian. Each person interviewed was influential in the community of Greensburg and within Kiowa County, and knew something about the wind farm. Most were city and county leaders.

Graduate students addressed different topics such as:

- Did interviewees have an opinion on wind energy?
- What steps did the project go through?
- Was the project a good or bad idea?
- Did groups and individuals have a fair amount of input as the project was considered?

After the key informant interviews were completed, focus groups were then conducted.

Between November 2, 2010 and November 9, 2010, the same research team conducted three focus groups in Greensburg, Kansas. The first focus group consisted of five people, and the second group had four people. The first two focus groups were conducted in the Greensburg high school cafeteria and library. The third group had four people, and was conducted at the First Baptist Church in Greensburg. All three groups were incentivized by food. Three people were in charge of facilitating each group. Every grouping had a moderator, scribe and recorder. The moderator introduced the group and explained why they were conducting these focus groups and asked questions about the Greensburg Wind Farm Project. These questions addressed different topics such as:

- Did interviewees have an opinion on wind energy?
- Was this project a good or bad idea?
- Was there enough information from all sides?
- Where was the information coming from?
- Who should benefit?
- What pitfalls should wind farm developers avoid?

During the focus group discussions, the scribe wrote down answers on a flipchart, and the recorder typed extensive notes on a laptop and ran an audio recorder. Each session took 30 minutes to an hour to conduct.

Out of the three focus groups completed, seven participants were male and six were female. Education levels ranged from high school graduate to a college bachelors degree. All were white Caucasian and ages ranged from 24 years old to 74 years old. Some focus group participants lived as close as three miles from the wind farm while others as far as 50 miles away.

Procedures following each focus group within 24 hours included:

1. Recorder listened to the focus group recording and finalized notes.
2. Sent the Word document and the recording to the scribe.
3. The scribe then typed up his/her notes from the flipcharts.

Next, within 48 hours of each focus group the scribe:

1. Listened to the focus group recording.
2. Integrated the flipchart notes with the recorders' notes, using different colored font so it was clear whose information was whose.
3. Noted any discrepancies in interpretations.
4. Sent the Word document and the recording to the facilitator.

Finally, within 72 hours of conducting each focus group the facilitator:

1. Listened to the focus group recording,
2. Compared it against the data report received from the scribe,
3. Reconciled any contradictions and
4. Asked the group to meet one last time if any lingering disagreements were at hand and lastly,
5. Sent final data files to Deborah Ballard-Reisch, Melissa Granville and the team leader.

The team leader within 24 hours of receiving data files then reviewed the focus group recordings alongside the data files and made note of any changes he/she thought necessary.

Thematic analysis and synthesis was performed on key informant interviews and focus groups separately first; the themes were later synthesized for commonalities. We will discuss thematic analysis in greater depth in our “Process” section.

## Findings/Conclusions

### A New Mission to Be Green

- *The wind farm was successful largely because it advanced the town's mission of being a model green town.*

On May 4, 2007, an F-5 tornado leveled more than 90 percent of Greensburg, Kansas. This destruction gave the City of Greensburg the unique opportunity to reconstruct the town using a sustainable and green model, and wind energy fit that mission to a tee. In Greensburg's rare circumstance, the tornado was the catalyst for innovative rebuilding.

As one key informant said,

*"The tornado changed all that for Greensburg... it was pretty devastating but it kind of set the stage for a new way to build something more sustainable."*

Since the time the tornado happened, the town has focused on being a self-sustaining town that uses 100% renewable energy. Participants saw the wind farm as an obvious opportunity to add to their mission of being green.

*"[The wind farm is] consistent with the green rebuilding; it's just another piece of the puzzle," said one focus group participant.*

*"It was either go back to how we were or we could go down a new path, and where we were, we weren't progressing," said another participant. "The wind farm was a part of that. If you're going to rebuild, that's just part of the big picture of what the community would look like."*

*"The reason this one was built wasn't like other farms, it had a lot more to do with the green aspect of Greensburg than it did anything else," said another participant.*

A majority of key informants and focus group participants expressed that the wind farm did help convey a green town message. One focus group participant explained that most of the green technology that Greensburg utilizes cannot be seen, but people can definitely see the wind turbines.

*"Greensburg's known as being the new energy efficient town and having the wind farm helps add to their credibility of being an energy efficient community," said another participant.*

According to the key informants, the success of the wind farm was largely because of the planners' focus on the community and communicating effectively with the

residents. Key informants agreed that public discussions and town hall meetings were open to all residents to express their opinions, concerns and questions regarding the wind farm and other community initiatives.

When asked if everybody had a fair amount of input one informant said, *“Very much so, through public meetings and through informational meetings with the private entities and their partnerships to develop with the public... the information was disseminated and questions were answered. It was a great process. Every stakeholder that had a stake in the project was listened to and had a fair amount of input.”*

But several of the focus group participants’ comments seemed to diverge from this sentiment. Participants stated regularly that town hall meetings should have been provided, indicating that they did not know about the ones that had occurred, possibly because they were inundated with new information about green initiatives following the tornado.

After the wind farm became a private issue, participation from key informants within the city of Greensburg fell off as well, and leadership became less of a concern among all parties involved. It was a private issue, and the decision makers would make the calls.

Three subthemes come from Greensburg’s planning process.

1. Decision-making was largely left to the “decision makers” and the community of Greensburg was split between being extremely involved or not at all.
2. While city council meetings addressed the process of the wind farm publicly until a private company stepped in, there remains confusion about wind energy and how it works due to a gap in community education.
3. Greensburg had to weigh the economic aspects of a wind farm; largely people are unopposed because they perceive economic benefits from being privately owned, including no increased taxes and jobs being created.

We will discuss these subthemes in greater depth below.



## **Involvement and Decision Making**

- ***People in the community were divided in their involvement with the wind farm.***

A consistent subtheme found in our research of Greensburg key informants and focus groups was that people were often categorized in one of two groups: involved in the project vs. not involved, but not opposed, to the project. The involvement level of the person was a key determinant in the level of knowledge about the project, as well as their apathy toward the Greensburg Wind Farm.

After initial meetings determined that the wind farm could not be community-owned due to feasibility, it became a private project. Bids were placed, and John Deere Renewables was chosen by city leaders and outside consultants. Because the wind farm was largely a private project between the Kansas Power Pool and John Deere Renewables, there were only a few key people from the community of Greensburg involved in the entire process. These private companies largely developed the Greensburg Wind Farm, and residents had very little influence in the logistics of the wind farm. This wasn't necessarily a bad thing in the eyes of community members, although some focus group participants and key informants did state that they were expecting a city-owned wind farm.

Focus group participants discussed how the private companies largely made the decisions made regarding the wind farm, and residents did not receive much information about it because it was *"a private business matter that we are not entitled to."*

- ***City leaders were trusted to make the right decisions for the community.***

City and local leaders saw little resistance to their decision-making power because of the residents' expressed trust in city leaders to make the right decision for the city.

*"If you had input from the whole town every time we put our foot down, we would still be in tents," said a focus group participant. "There's no way you could build a town from scratch, so you leave these decisions to decision makers."*

*"God put those people in those positions, and we had confidence in those people,"* added another participant.

While city leaders were involved in the making of the wind farm, very few residents were directly involved outside of community discussions. Those not involved in the decision making process expressed little concern about the wind farm because it was largely a decision for city leaders and private companies. Several participants mentioned that information regarding the wind farm was available, if you were to look for it; most did not.

- ***Community members were too busy cleaning up their own lives after the tornado to be concerned with the specifics of a wind farm.***

Other factors including apathy, and dealing with the aftermath of the tornado were larger concerns for the residents than the Greensburg Wind Farm.

*“[The wind farm was] a wonderful idea but I didn’t give much thought to that right after the storm,” said one key informant. “It was hard for us to see how wonderful these projects could be when we were more concerned about getting the mess cleaned up.”*

Those involved in the wind farm decision-making also recognized that there was no fallout because there was no organized opposition.

*“There wasn’t a lot of vocal opposition at that point, we were just doing the preliminary steps and exploring our options, but there was a fairly large consensus in town. Especially once the financial burden was shouldered by a private corporation, there wasn’t a downside to it and [there] wasn’t any organized opposition,” and that “concerns were founded in misinformation.”*

### **Confusion about Wind Energy**

- ***Community members are still not sure how the wind farm works.***

A common theme throughout the focus groups and key informant interviews was that there is confusion regarding the wind farm, such as logistics and who reaps the benefits. We found that confusion largely comes from lack of information and apathy toward the wind farm.

Participants reported that there was a lack of information about the logistics of wind farms. Throughout the discussion, residents raised questions about several issues including whether or not Greensburg receives the energy that the Greensburg Wind Farm generates.

*“I kind of thought that in town, in Greensburg, we would benefit more from it,” said one resident, “I thought it comes straight from here to there but it goes somewhere else.” To which another participant responded, “It does.”*

The focus groups discussed this issue, and came to a couple of conclusions. First, the participants felt that wherever the wind farm was located, the residents of that county should receive the energy there as well.

*“If your county has a wind farm, then your county should get the energy,” stated one participant simply, with others agreeing.*

Secondly, participants found that, in general, there is still confusion about the logistics of the wind farm. The participants discussed the issues of how the wind farm works, where the energy goes, what happens during the winter, etc. among themselves and, for the most part, did not come up with definitive answers to the questions that they had.

When asked whether there was enough information regarding the wind farm, one participant said, *“No not at this point in time. I thought there would be more meetings on the farm itself. Also a little bit more on the [energy] credits. Maybe I haven’t been looking down the right avenues but there haven’t been much meetings about it. I don’t know if it’s sophisticated or complicated, but for me, it’s a little hard to understand.”*

- ***Community members supported the green mission, but were not informed about the wind farm after it was developed.***

It seems that residents were on board to become a sustainable town, but have not been given enough information regarding the wind farm itself.

Key informants stated that wind farm development is an intensive process surrounded by red tape and a lot of technical knowledge. Perhaps the technical knowledge and specific reasons certain decisions were made was not expressed to the community in an easily digestible manner. Once the wind farm was put in, developers’ education efforts were not continued.

- ***The wind farm was not an issue community members cared about.***

Another possible reason for the confusion may come from the residents’ apathy toward the wind farm. For most participants, there was confusion because the wind farm is not an issue they cared about or paid attention to.

*“If there were people dispensing information, I wasn’t paying attention,”* was a common response.

*“I don’t know that there’s enough knowledge about it yet,”* said one participant, *“If there was more of an interest, there would have been more people here tonight.”*

Others stated simply that they did not care about how the farm worked, as long as the farm does work.

*“I’m pretty simplistic. I don’t care where it goes. I want those wind mills to run and the electricity to turn on. That’s enough for me.”*

Several other participants agreed that there may have been a lack of information because there was not enough enthusiasm or participation regarding the wind farm. The participants also acknowledged that there was a lack of information or participation because the wind farm was largely a private business decision and

because residents of Greensburg were concerned with cleaning up after the destruction left behind after the tornado.

### **Economic Aspects**

- ***The wind farm is good for Greensburg economically.***

Another apparent theme throughout this project is that people think the Greensburg wind farm is economically beneficial, developing jobs and creating national media attention for the city as a model for sustainability.

*“We have so many people come into the town looking at this community being the greenest community. It is phenomenal so we are getting people here by the busload looking at this green community,”* stated one key informant.

Prior to 2007, the City of Greensburg had entertained the idea of running a smaller wind farm. They found out that the project required much more funding than they had anticipated. The economic benefits of a privately owned wind farm became apparent to them, key informants stated.

With the current wind farm, feasibility was based on several factors, including having partnerships and collaboration with several key companies including the Kansas Power Pool and John Deere Renewables. Key informants echoed the sentiment that partnerships with private industries and investors are needed, especially for smaller communities who cannot afford the technology themselves. Other barriers to the feasibility of the Greensburg Wind Farm were transmission lines and other intricate factors involved with wind energy including REC transfer agreements.

*“Understanding that building any kind of wind project, there’s a tremendous amount of regulation in that,”* said one informant, when asked about advice for wind power support. *“The numbers have to work, the regulations and timing as well. The biggest thing is that you’ve got to be prepared for the long haul.”*

Also, many people think that because the wind farm project is not publically funded, it has helped the town accomplish their goal of being 100% green.

Through private ownership, many benefits included: decreasing taxes and energy costs, helping landowners subsidize property, providing clean energy and keeping dollars in the community. Taxes did not go up in the community, likely a major reason why few were opposed to it.

One participant said, *“... if it doesn’t affect your pocket book, you don’t care. I think it would have drawn a lot of public discussion if it had been like that.”*

## Non-Thematic Findings from Focus Groups

Though the themes from our research represent a synthesis of key informant interviews and focus groups, there were a couple of recommendations from the focus groups that are relevant to wind farm developers.

- ***Wind farm developers should go where they are wanted.***

First, participants recommended developers to establish wind farms in communities that want it, and are educated on the benefits of wind energy. Though it sounds simple enough, focus group participants contend that there are many rural counties who are more than willing to establish wind farms in their communities, whether for the economical or status gain.

- ***Educated community members will not be against wind energy.***

Participants also believe that residents who are educated on the benefits of wind energy, how it works and the logistics behind it are crucial to wind farm success. Several focus group participants believed that once residents are educated, they would be willing to establish a wind farm in their cities.

- ***Developers should discuss contracts — honestly.***

Focus group participants had several recommendations for developers when dealing with landowners, specifically those that live in rural counties.

A landowner who had wind turbines on his farming property mentioned that contracting with other landowners is a process that wind energy developers should understand. Wind farm developers should make a significant effort to speak with landowners and farmers about the intricate details of contracts — in honest terms — before the paperwork is handed out.

“At first there can be a lot of suspicions and questions from landowners and farmers about what they’re getting into. [Landowners should] read long contracts and talk to attorneys, as best they can... [Companies should] be honest and lay out in terms that local landowners can trust and understand. The more they can understand the farmers’ needs and points of view, the better off everyone would be.”

- ***Developers should build trust with landowners and the community.***

Another participant added that wind energy developers should build a trust with residents, “The more that you can build a trust... if the local people think a big company is trying to hoodwink them, they’ll probably resist.”

The participant who was also a landowner expressed some concerns regarding contracts, such as not being able to share the contract information with others, including other landowners. This caused concerns for him about whether he could trust that he was getting a fair deal compared to other landowners. The focus group seemed to be in consensus that the ability to communicate with their community members about the specifics of the wind farm would make them feel more comfortable with the terms they were signing.

Other focus group participants expressed concern about how landowners are not allowed to drill for minerals on their property.

*“Some of the wind leases, they were trying to exclude the farmers from not being able to sign a contract or drill for minerals on the property,”* said one participant, who believed that was in previous contracts, but not currently in the Greensburg Wind Farm.

*“When I got the contract, I took it to an attorney and one of the first things he said, is that the way the contract is written up, they could pave your farm,”* said the participant who was a landowner with a wind turbine on his property. *“So we went through it and he marked out some things that we should get consideration on, but they didn’t really give any. It’s always been kind of a concern for me to see what they’re up to.”*

Trust is a huge factor in focus group participants’ eyes.

- ***Developers should come back to fix the problems that occur after the wind farm is initially installed.***

The landowner continued on to discuss how some things were not what they seemed. Loose cables tangled around his cattle’s horns; someone from town took a photograph and sent it to John Deere Renewables, he said, and they fixed the problem immediately.

*“With the wind tower, they said they needed an acre, but they took three acres and they left the cables loose, and it took about \$2,000 and a 24 hour delay [to get fixed]. When I took it to them, they said they were going to take care of that, [they said] we want to be good neighbors. So they try.”*

The focus group participants said that developers did a good job in Greensburg of cleaning up messes from the construction process, fixing potholes from heavy equipment, and listening to the problems the landowners about problems such as the loose cables. It spoke to participants that the landowner had such a quick response from the company to fix the problem.

## Recommendations

Several recommendations for executing wind farm development in rural Kansas communities can be taken from the findings in the focus groups and key informant interviews.

- **Go where people want you.**

If there is strong resistance to wind energy in one community, move on to the next. Rural Kansas is filled with communities who would appreciate the economic benefits and sustainable nature of a wind farm. There are people who are open to the idea; developers just have to find them.

- **Work with trusted city leaders to get communication going in the community.**

Developers should become familiar with the most trusted city leaders in rural Kansas. Those city leaders can make or break for whether the community is on board. The community also trusts “one of their own” more than it trusts “the big corporation.”

- **City leaders should focus on getting information out in multiple platforms**

Greensburg tried to have community meetings that were open to the public. Education is a key step, but the word did not get out in Greensburg about the meetings. The focus group participants mostly stated that they read information about the wind farm through the Kiowa County Signal, the local newspaper, and did not attend meetings. Several did not know about the meetings. There was a gap in communication between city leaders and the community. Increased information about the community meetings should be disseminated. Several meetings should be held. Other campaign options should also be addressed, including putting a frequently asked questions piece in the local newspaper, and possibly speaking on local radio stations. Not everyone will know about community meetings. Not everyone will attend. Developers and city leaders have got to reach community members in other ways.

- **Education doesn't stop when the wind farm is finished.**

Community members had lingering questions after the wind farm was put in. Where did the energy go? How does the wind farm work? If developers had come back to the community to educate members when their lives were not so chaotic from the tornado cleanup, it seems they would be more satisfied. Creating an informational mailer to send to

community members is one avenue. Having a block party or informational meetings surrounding the wind farm is another idea.

- **Build trust with the community and follow up.**

Follow up on questions and problems with landowners and community members. Talking over the specifics of the contract with landowners in a non-aggressive setting with simple language will make them feel calmer and more at ease about the entire process. The community does not want to feel like it may be taken advantage of, and building trust by cleaning up roads and taking care of landowners' problems immediately are ways to build lasting trust in the community.



## Process

### Key Informant Interviews

First, key informant interviews were conducted. A key informant interview is a focused individual interview, which uses a semi-structured process to address specific topics (Clements-Nolle, et. al., 2005). Once all key informant interviews were completed, the data from the interviews were compiled into a master data file. Boyatzis's (1998) thematic analysis was used to analyze the data. Thematic analysis is "a process for encoding qualitative information" (Boyatzis, 1998, p. 4). In order to bring forth "previously silenced voices or perspectives" (Boyatzis, 1998, p. 30), an inductive data-driven methodology was used; meaning the researchers had no theory guiding the project, but instead allowed meaning to develop from the data. Thematic analysis is a repetitious process of working back and forth between the data until all themes have been identified.

#### Steps for Thematic Analysis:

1. The four most informative interviews were identified
2. Beginning with the first question (using the four most informative interviews), themes were identified and separated into lists. Themes are "a pattern found in the information that at a minimum describes and organizes the possible observations and at a maximum interprets aspects of the phenomenon" (Boyatzis, 1998, p. 4).
3. Once themes were put in coherent lists, they were given a code. A code is a list of themes or a categorization of themes. Thematic codes have five elements: a name, a definition of the theme, a description of when the theme occurs, a description of qualifications of the theme, and examples (Boyatzis, 1998).
4. The interviews were reviewed again to see if the code still fit.
5. The next question was coded using steps 2-4. The process (steps 2-4) was followed sequentially for the rest of the questions from interviews 1-4.
6. Once all of the questions were coded for interviews 1-4, the rest of the interviews (5-10) were reviewed (steps 2-5) to see what new themes emerged. Themes were then reclassified and possibly given new codes.
7. Codes were compared in a cross-cutting manner to condense and consolidate.

### Focus Groups

After the key informant interviews were completed, focus groups were conducted. Focus groups are "semi-structured group interviews, guided by a moderator to address specific topics of interest" (Krueger & Casey, 2009). There were three roles of the research team during the focus groups: the facilitator, scribe and recorder

(Sacks & Ballard-Reisch, 2006). The recorder typed notes during the focus group and afterwards reviewed the audio file for any discrepancies. Then the recorder sent their data file to the scribe. The scribe kept notes on flipcharts during the focus group. After the focus group, the scribe typed up the flipchart notes, and then added those notes to the recorders data file, after reviewing the audio file. Any discrepancies were highlighted in color. The scribe then sent the data file to the facilitator. The facilitator reviews the audio file and finalizes the data file by deciding on the discrepancies and completing the final data file. Once all three focus groups were completed, the data from the focus groups was compiled into a master data file. Once again, Boyatzis's (1998) thematic analysis was used to analyze the data.

### **Steps for Thematic Analysis:**

1. Beginning with the first question themes were identified and separated into lists. Themes are "a pattern found in the information that at a minimum describes and organizes the possible observations and at a maximum interprets aspects of the phenomenon" (Boyatzis, 1998, p. 4).
2. Once themes were put in coherent lists, they were given a code. A code is a list of themes or a categorization of themes. Thematic codes have five elements: a name, a definition of the theme, a description of when the theme occurs, a description of qualifications of the theme, and examples (Boyatzis, 1998).
3. The focus group answers were reviewed again to see if the code still fit.
4. The next question was coded using steps 1-3. The process (steps 1-3) was followed sequentially for the rest of the questions from the focus groups.
5. Themes were then reclassified and possibly given new codes.
6. Codes were compared in a cross-cutting manner to condense and consolidate.

## **Synthesis**

After the data from the focus groups and key informant interviews was thematically analyzed, the researchers analyzed the themes from both processes in a cross-cutting manner and discovered overarching themes that represent a synthesis of the research.

# **Strengths, Limitations, and Suggestions for Future Research**

## **Strengths of Key Informant Interviews**

Strengths of the data relate to the strengths of community based participatory research. Scholars have said that this research process, where research is grounded in the community, is important because the research can often render action in the community. The data collected regarding the Greensburg wind farm is vital because it provides an extraordinary case of a town intending to rebuild in a sustainable manner. The key informant interviews conducted were strengths because of the range of people that researchers spoke with, including community leaders, politicians, local business owners and informed residents.

## **Limitations of Key Informant Interviews**

The results of key informant interviews were important in finding out the ways that the wind farm in Kiowa County formed and the processes that it went through. Though the research team remained neutral on the subject, there were some limitations to this research process.

A few key influential contacts were unreachable. Some had moved from the area and accurate contact information was difficult to obtain. Another limitation was that most rural Kansas communities were in the middle of harvest during the research process and not a lot of farmers had time to speak with researchers. Another cause of limitation was that the project had limited involvement on the county level, on which the research objective was focused. Much of the involvement was on a higher corporate level in the later stages of the process.

## **Strengths of Focus Groups**

The focus groups conducted were strengths because researchers spoke in person with the community members directly affected by the Greensburg wind farm.

Researchers effectively questioned residents and probed them for more information, noting the discussions at the tables. Many of the residents seemed candid, even asking questions of one another. The focus groups provided a forum for the residents of Greensburg to discuss openly their questions about the wind farm. Findings from each of the groups, which were equally sized, were consistent.

## **Limitations of Focus Groups**

The results of focus groups were important in finding out the ways that the residents of Greensburg felt about the process through which the wind farm was

created. Though the research team remained neutral on the subject, there were several limitations to this research process.

Because the county we researched was several hours away, researchers found it difficult to go to the city of Greensburg in person before focus groups to promote them. Flyers were distributed, but an advertising budget was not accessible. Another limitation to participation may have been due to Greensburg's extensive media inundation following the tornado.

Other criticisms of focus groups, according to Casey and Kruger (2009), include a tendency among participants to intellectualize, a lack of emotional reflection in responses, made up answers to limited experiences, individuals dominating the discussions and thus influencing results, and a lack of validity (Casey & Kruger, 2009, p.13-15). However, researchers sought to minimize these limitations through skilled moderation and quality thematic analysis. Because qualitative research is subjective, researchers used each others' judgments about themes between focus groups to balance out thematic findings.

### **Suggestions for Future Research**

Recommended future steps would be to conduct more research on the human and community aspect of wind farm development, especially in communities that do not have extenuating circumstances of tornado damage. Research comparing community perspectives on large-scale as opposed to small-scale wind farms would be another future research option. Another recommended future research step would be sampling others for focus groups outside of Greensburg — neighboring towns of Haviland and Mullinville, for example — to get a better feel for the county's perspective.

## References

- Boyatzis, R. E. (1998). *Transforming qualitative information*. Thousand Oaks, CA: SAGE Publications.
- Clements-Nolle, K., Ballard-Reisch, D.S., Todd, R. L. & Jenkins, T. (2005). Nevada's academic-practice collaboration: Public health preparedness possibilities outside an academic center. *Public Health Reports* 120 (Supplement 1), 100-108.
- Krueger, R.A. & Casey, M.A. (2009). *Focus groups: A practical guide for applied research*. Thousand Oaks, CA: SAGE Publications.
- Sacks, T. & Ballard-Reisch, D.S. (2006). Focus group guide. Unpublished.