BUILDING SUSTAINABLE RURAL KANSAS INITIATIVES: ASSESSING COMMUNITY PARTICIPATION IN WIND ENERGY DECISION-MAKING

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The following faculty members have examined the final copy of this thesis for form and content, and recommend that it be accepted in partial fulfillment of the requirement for the degree of Masters of Arts with a major in Communication.

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DEDICATION

To my beloved family

Michael Granville

Teri Granville

Sharyn Granville

Dustin Granville

You mean the world to me

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ABSTRACT

This study reports on the results of a triangulated inquiry into the processes and outcomes of wind energy decision-making in Kansas. Specifically, key informant interviews were conducted with local stakeholders and decision-makers in three Kansas counties. In the same counties, focus groups were conducted with community members. Finally, state-level stakeholders, including government officials, wind industry representatives and advocacy group representatives were interviewed about their perceptions regarding community collaboration in wind energy decision-making. Data were analyzed using an inductive approach to thematic analysis. Results were discussed in terms of emergent themes within counties or groups and as a result of cross-cutting analyses. Thematic analysis led to the development of a communication grid with axes for consultation and information that impact satisfaction with wind energy decision-making and the sustainability of communities and Kansas' wind energy industry. Four paradigms, three actual and one theoretical, emerged from the data and prior research. Implications for sustainable wind development in Kansas are discussed.

TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

Wind energy project development in rural areas of Kansas is increasing due to Kansas' wind-producing potential and federal and state goals and incentives. According to Lu, McElroy and Kiviluoma (2009), Kansas is second in wind-producing potential in the contiguous United States. In the last decade, ten commercial wind energy projects were developed in Kansas, accounting for 1,026 megawatts (MW) of installed capacity (American Wind Energy Association [AWEA], 2010b). Kansas has experienced tremendous growth in terms of commercial wind energy projects in recent years; nearly 70% of the operational projects were developed within the last three years (AWEA, 2010b). Proposed wind energy projects in Kansas would add an installed capacity of more than 6,200 MW (American Council on Renewable Energy [ACORE], 2009). The increase in wind energy development in Kansas was precipitated by federal and state incentives and goals.

The federal government incentivizes wind energy through a production tax credit (PTC). The federal PTC is a 2.2 cents per-kilowatt-hour tax credit for electricity generated by wind energy for the first 10 years of operation (North Carolina Solar Center & Interstate Renewable Energy Council, 2010). Additionally, in 2008, the Department of Energy Office of Energy Efficiency and Renewable Energy published goals for wind energy development. Their research report outlined the impacts, challenges and feasibility of a plan to develop 20% wind energy by 2030 (Office of Energy Efficiency & Renewable Energy [EERE]/U.S Department of Energy [DOE], 2008) and concluded that such a goal was ambitious, but feasible if the challenges outlined are met (EERE/DOE, 2008).

Complementing the federal PTC, Kansas incentivizes wind energy development through a renewable portfolio standard (RPS) and a property tax exemption. Kansas' RPS requires utilities to acquire 10% of their energy from renewable energy sources by 2011, 15% by 2016 and 20% by 2020 (Pew Center, 2011; North Carolina Solar Center & Interstate Renewable Energy Council, 2010). Kansas also exempts wind energy developers from paying property taxes on the land used for development (North Carolina Solar Center & Interstate Renewable Energy Council, 2011a). In addition to the two major incentives, Governor Kathleen Sebelius issued a 2007 challenge that Kansas attain 1,000 MW of renewable energy capacity by 2015; this goal was reached in 2009 through wind energy generation alone (ACORE, 2009). The governor also asserted that wind energy should account for 10% of the energy consumed in Kansas by 2010 and 20% by 2020 (U.S. Environmental Protection Agency [EPA], 2010); these goals have yet to be accomplished (AWEA, 2010a).

Due to their distance from "manmade and geographic obstruction" and highest annual wind averages, the most suitable areas for wind energy projects are typically in rural flatlands (Patullo, 2010, p. 8). In addition to having a large wind resource, nearly 85% of the 105 Kansas counties Kansas are rural (Kansas Department of Health & Environment [KDHE], 2011). Rural areas face numerous challenges, including unemployment, poverty, diminishing infrastructure and declining populations. These challenges led to an increasingly older, poorer, underemployed rural population with less access to amenities than populations of urban areas (Brown, 2008).

To address the unique issues of rural areas, public projects and programs are continuously being implemented in order to build a sustainable foundation that supports quality of life (United States Department of Agriculture [USDA], 2004). Sustainable projects are vital to quality of life

in rural areas (Dunmade, 2010); however, for a variety of reasons, rural projects and programs are not always sustainable.

One cause of unsustainable rural development is a deficiency in community participation in project decision-making and implementation (Dunmade, 2010). Participation and community involvement in rural project development is associated with improved project sustainability, efficiency and effectiveness (Owen, 2007). Collaborative partnerships between project developers, local government representatives, business and associations, and community members foster joint learning and negotiation through "an inclusive dialogic approach" (Brand & Gaffikin, 2007, p. 283). This involvement often leads to investment of community members in the success of the project. Dunmade (2010) posits that in order to obtain community investment, the technology being developed in the community must be "compatible with their socio-cultural lifestyle" and should be "environmentally friendly" (p. 150). Through community engagement, participation and ultimately community investment, wind energy project development in Kansas, if appropriate for the community and environmentally friendly, can be sustainable, efficient and effective.

Given the importance of public participation to the sustainability of projects, this thesis assessed the following: 1) community member perceptions of Kansas wind energy project decision-making and 2) perceptions of decision-makers regarding the need and/or appropriateness of engaging communities in Kansas wind energy project decision-making. These dynamics collaboratively informed the overarching question: *What is the role of communication with the community in Kansas wind energy decision-making?*

In order to broadly assess the aforementioned issues, a triangulated method (Maxwell 2009; Green, 2007; Brewer & Hunter, 2006; Denzin, 1978) was utilized to provide a "coherent

and comprehensive account or story of the phenomena being studied" (Greene, 2007, p. 43). The triangulated method included secondary analysis of case study data (Smith, 2008; Boslaugh, 2007) and key informant interviews (KIIs) (Eng et al., 2005).

Literature for this study is reviewed in the following areas: 1) the research context, including: a) energy independence, b) energy sources, including wind energy, c) environmental protection, d) wind energy policy, e) wind energy development in Kansas, f) the role of rural Kansas in wind energy development, g) sustainable rural livelihoods, h) the importance of participatory project development and i) an introduction to the Department of Energy funded research team; and 2) engaged scholarship is delineated as the theoretical foundation for this thesis.

CHAPTER 2

LITERATURE REVIEW

Research Context

Energy independence

The United States is highly dependent on foreign energy, which threatens the economy and security of the nation (National Resources Defense Council [NRDC], 2004). Currently, the United States imports vast amounts of petroleum, natural gas and coal (U.S. Energy Information Administration [EIA], 2009). Nearly 1,255 thousand barrels of petroleum were imported per day in 2009, the highest petroleum importation in the world (EIA, 2009). More than half of the petroleum consumed in the United States is imported (EIA, 2010b). The United States is also first globally in natural gas importation with 3,751 billion cubic feet imported in 2009 (EIA, 2009). Additionally, 22,986 thousand short tons of coal were imported in the same year (EIA, 2009).

Despite the United States' current energy scenario, energy forecasts propose that within the next 24 years there will be an increased use of renewable energy sources and a declining reliance on imported liquid fuels, namely petroleum (EIA, 2010a). According to the U.S. Energy Information Administration (EIA) *Annual Energy Outlook 2010* (2010a), the role of renewable energy in the United States could grow even larger if policies that support renewable fuels are extended.

The following section describes the role of nonrenewable and renewable energy sources in the United States and Kansas.

Energy sources

Energy is produced from two types of sources: nonrenewable and renewable. Nonrenewable energy draws from finite resources and can only be utilized until the resources are depleted; renewable energy draws from energy sources that are constantly replenishing (National Renewable Energy Laboratory [NREL], 2009). Fossil fuels (petroleum, natural gas and coal) and nuclear power (uranium) are nonrenewable energy sources (EIA, 2010c) while solar, geothermal, biomass, hydropower and wind are renewable energy sources (EIA, 2010d).

Although the United States uses both nonrenewable and renewable energy sources, nonrenewable sources account for most of the current energy production (EIA, 2009). Ninety-two percent of all energy used in the United States is nonrenewable (EIA, 2009). For electricity generation, renewable energy sources accounted for 10.4% of the 3,950 million megawatthours (MWh) produced in 2009 (EIA, 2009). With growing concerns about the reliance on fossil fuels, the United States has developed plans to significantly increase energy production through nonrenewable sources over the next 20 years (DOE, 2008; EERE/DOE, 2008).

Kansas is the 22nd largest producer of energy in the United States (EIA, 2008a). Similar to other states, Kansas relies heavily on nonrenewable energy sources (EIA, 2011). For example, coal-fired power plants are Kansas' predominant method for generating electricity (EIA, 2011). Renewable energy plays a relatively small role in electricity production in the state (EIA, 2011). In 2008, Kansas generated only 1,770 thousand MWh of electricity from renewable energy sources (EIA, 2008b). Despite the reliance on nonrenewable sources, Kansas has developed plans to increase renewable energy production (ACORE, 2009). In particular, Kansas will tap its rich wind resource, which currently ranks second in the U.S (Lu et al., 2009).

The following section will discuss wind energy in the United States and Kansas.

Wind energy

Wind is a plentiful energy source with higher concentrations in certain areas of the United States. According to Lu, McElroy and Kiviluoma (2009), Texas, Kansas and Montana are the top three states for wind-producing potential in the contiguous United States; however, Texas, Iowa and California had the most installed capacity as of 2010 (AWEA, 2010a). Today, most wind turbines are installed on land; however, offshore developments are increasing (Patullo, 2010; EERE/DOE, 2008).

In 2009, wind power contributed 1.8 % of the total electricity produced the United States (EIA, 2009). Although the percentage of electricity generated by wind is relatively low compared to fossil fuels and hydroelectric, it is growing rapidly. Between 2007 and 2009, the rate of electricity generated by wind doubled (EIA, 2009). Currently, the United States is first globally with an installed capacity of 36,698 MW with 6,925 MW of additional capacity under construction (AWEA, 2010b).

Wind energy is the most common renewable source used for electricity generation in Kansas, accounting for 5.2 % of the electricity generated (AWEA, 2010a). Additionally, Kansas has an estimated 120 GW of wind potential (ACORE, 2009). However, Kansas currently ranks 14th in installed wind capacity with 1,026 MW (AWEA, 2010b). Although wind energy accounts for only a small percent of the total electricity generated in Kansas, wind energy has increased rapidly over the last decade due to state goals and federal incentives (ACORE, 2009; Wiser, 2007).

In the following section, the impact of fossil fuel reliance on the environment will be discussed.

Environmental protection

The United States' utilization of principally nonrenewable sources has significant negative impacts on the environment. These impacts include climate change, air pollution, and water and land pollution (Union of Concerned Scientists, 2010). According to the Environmental Protection Agency (2007), fossil fuel-fired plants contribute to "67% of the nation's sulfur dioxide emissions, 23% of nitrogen oxide emissions and 40% of man-made carbon emissions" (para. 1). These emissions increase the risk of climate change (EPA, 2007). CO_2, one principal fossil fuel emission, is linked to climate change (IPCC, 2007). Additionally, pollutants released through fossil fuel combustion have severe implications for human health (Union of Concerned Scientists, 2010). Oil spills and coal mining contribute to water pollution and land degradation (Union of Concerned Scientists, 2010). When compared to nonrenewable energy sources, renewable energy has considerably fewer negative impacts on the environment (EPA, 2007).

The following section will discuss the wind energy policies fashioned to address growing concerns about the reliance on fossil fuels.

Wind energy policy

The United States has recognized the negative impacts of fossil fuels consumption on the economy and national security (DOE, 2006) and, as the world's largest cumulative producer of greenhouse gases, has taken action to increase renewable energy production (Kiesecker et al., 2011). Many policies have been employed to regulate pollutant emissions, reduce fossil fuel production and increase renewable energy production. Most notably, wind energy goals and policies have driven the increase in wind energy development in the United States.

Over the last decade, Kansas has significantly increased its wind energy development, from 0 MW installed capacity in 2000 to 1,026 MW in 2010 (AWEA, 2010b). Although the

impetus for development was vast wind resources, state wind energy goals and incentives fostered continuous development.

The following are several federal and state goals and incentives that contribute to the increase in wind energy development.

20% Wind Energy by 2030 Report

The Department of Energy Office of Energy Efficiency and Renewable Energy (EERE) published a research report in December 2008 outlining the impacts and challenges associated with developing 20% wind by 2030. In order to meet 20% of the projected 5.8 billion megawatthours (MWh) of demand in 2030, the United States must have a wind power capacity of 300 gigawatts (GW), which would be an increase of 290 GW between 2007 and 2030 (EERE/DOE, 2008). The impact of the 20% wind energy scenario indicated by the report includes avoiding air pollution, reducing greenhouse gas emissions, reducing electricity generated CO_2 by-product emissions by 825 million metric tons annually, reducing water use by electricity generating facilities, diversifying U.S. electricity portfolio, supporting domestic energy production with stable prices, stabilizing electricity rates, creating a new income source for rural landowners and local communities, and generating jobs (EERE/DOE, 2008). The challenges indicated by the report include improving the U.S. transmission system, improving regional planning and load balancing, reducing wind capital costs, improving turbine performance and addressing concerns about local siting and the environment (EERE/DOE, 2008). The report concluded that while the 20% wind energy scenario was ambitious, it was also feasible if the challenges are met (EERE/DOE, 2008).

Governor Sebelius' 2015 Renewable Energy Challenge

In 2007, then Kansas Governor Sebelius announced a renewable energy challenge for the State; the objective was to have 1,000 megawatts (1 GW) of renewable energy capacity installed by 2015 (ACORE, 2009). According to a report by the Kansas Corporation Commission, in order to meet the governor's 2015 Renewable Energy Challenge, only wind-powered generation would be feasible due to the technological and economic inadequacies involved with utilizing other renewable energy sources (Cita et al., 2008). Kansas surpassed the governor's goal of 1,000 MW of installed wind capacity in early 2009, nearly seven years ahead of schedule (ACORE, 2009).

Additionally, Governor Sebelius declared that wind should account for 10% of the energy consumed in Kansas by 2010 and 20% by 2020 (EPA, 2010). Kansas has yet to meet this challenge.

Renewable portfolio standards

Renewable portfolio standards (RPSs), or alternative energy portfolio standards (AEPS), establish a minimum percentage of electricity that utilities must provide from renewable energy sources (Pew Center, 2011). Utilities can use renewable energy credits (RECs) to account for this percentage (North Carolina Solar Center & Interstate Renewable Energy Council, 2010). RECs are credits that can be purchased by companies from renewable energy generation facilities to minimize the carbon footprint of the company (Renewable Choice Energy, 2011). By purchasing RECs, the company effectively reduces the production of fossil fuel generated energy and supports renewable energy facilities (Renewable Choice Energy, 2011). Renewable portfolio standards vary from state to state, ranging from modest to ambitious (Pew Center, 2011). As of January 2011, there were 31 states that have an RPS or AEPS and five states that had renewable

or alternative energy goals (Pew Center, 2011). Kansas is one of the states that currently has an RPS.

In 2007, Kansas committed to the Midwestern Regional Greenhouse Gas Reduction Accord, requiring a 10% renewable energy standard by 2015 (EPA, 2010). Kansas' RPS was enacted in May 2009 through the passage of the Senate Substitute for Kansas House Bill 2369 (North Carolina Solar Center & Interstate Renewable Energy Council, 2010; Pew Center, 2011). The Senate Substitute of H.B. 2369 required utilities to "obtain 10% of their energy from renewable sources by 2011, 15% by 2016 and 20% by 2020" (Pew Center, 2011, para. 1).

Renewable energy production tax credit (PTC)

The federal PTC is "a per-kilowatt-hour tax credit for electricity generated by qualified energy resources and sold by the taxpayer to an unrelated person during the taxable year" (North Carolina Solar Center & Interstate Renewable Energy Council, 2011b, para. 1). Currently, organizations receive 2.2 cents per kWh for wind, geothermal and closed loop biomass for the first 10 years of operation (North Carolina Solar Center & Interstate Renewable Energy Council, 2011b). The PTC ends in 2012 for wind energy (North Carolina Solar Center & Interstate Renewable Energy Council, 2011b). According to the Department of Energy Office of Energy Efficiency and Renewable Energy's (2008) *20% Wind Energy by 2030 Report*, with PTCs, the United States wind energy industry has grown rapidly.

The federal PTC incentivizes wind energy development in Kansas and, since 2001, Kansas has developed significant wind capacity. When Congress voted against renewing the PTC in 1999, 2001 and 2003; Kansas, along with other states, had a sizeable drop in new wind installations for the following years (Wiser, 2007). In 2004, Congress extended the PTC and Kansas has seen subsequent growth, especially in 2008.

Kansas renewable energy property tax exemption

Enacted in 1999, Kansas Statutes 79-201 excuse wind, solar thermal electric, photovoltaic, biomass, hydropower, geothermal and landfill gas companies from property taxes (North Carolina Solar Center & Interstate Renewable Energy Council, 2010). Often, wind developers in Kansas will offer a payment in lieu of taxes (PILOT) to the "local taxing authority" to offset the "excessive use of infrastructure in the area while developing the project" (Windustry, 2011b, para. 1). Property taxes and PILOTs are beneficial for communities because they support new and existing infrastructure (Windustry, 2011b). Often, developers will enter into a PILOT agreement to gain a relationship with a community (Windustry, 2011b).

Wind energy development in Kansas

Kansas' first large-scale, commercially operated wind farm was the Gray County Wind Farm in 2001 (AWEA, 2010b). The most recently developed wind farm was the Greensburg Wind Farm that became operational in 2010 (AWEA, 2010b). Currently, there are 10 Kansas commercial wind farms in operation (AWEA, 2010b). All currently operational Kansas wind farms are indicated in Table 1, including name, county, size and year the project began operation.

If Kansas is to meet federal goals to generate 20% electricity from wind by 2030, 6,000 to 10,000 MW of additional installed capacity will be required (ACORE, 2009). Currently, there is more than 6,200 MW of wind energy proposed in the state (ACORE, 2009).

TABLE 1

OPERATIONAL COMMERCIAL WIND ENERGY PROJECTS IN KANSAS

Name	County	Size (MW)	Year
Gray County Wind Farm	Gray County	112.2	2001
Elk River Wind Farm	Butler County	150	2005
Spearville Wind Farm	Ford County	100.5	2006
Smoky Hills Wind Farm 1	Lincoln/Ellsworth Counties	100.8	2008
Smoky Hills Wind Farm 2	Lincoln County	148.5	2008
Meridian Way Wind Farm 1	Cloud County	105	2008
Meridian Way Wind Farm 2	Cloud County	96	2008
Flat Ridge Wind Farm	Barber County	100	2009
Central Plains	Wichita County	99	2009
Greensburg Wind Farm	Kiowa County	12.5	2010
	TOTAL MW	**1026**	

(AWEA, 2010b)

The following section will discuss the role of rural areas in Kansas in wind energy development.

The role of rural Kansas in wind energy development

The most suitable areas for wind energy projects are typically in rural flatlands, due to their distance from "manmade and geographic obstruction" and high annual wind averages (Patullo, 2010, p. 8). In addition to having a large wind resource, Kansas is predominantly rural. Nearly 85% of the 105 counties in Kansas are rural (KDHE, 2011) and 36% of Kansans live in these areas (Economic Research Service [ERS]/U.S. Department of Agriculture [USDA], 2010).

Rural areas face numerous challenges, including unemployment, poverty, diminishing infrastructure and declining populations. According to the Council of Economic Advisors (2010), the aforementioned challenges contribute to weak rural economies, which inhibit economic growth (Brown, 2008).

Unemployment and poverty are persistent problems in rural areas. Between 2008 and 2009, the unemployment rate increased from 1.9% to 5.7% (ERS/USDA, 2010). In addition to high unemployment rates, Kansas rural areas have higher poverty rates than urban areas (ERS/USDA, 2010); nearly 15% of rural residents live below the poverty line (ERS/USDA, 2010). Rural areas are also experiencing diminishing infrastructure, capacity and services - especially fewer health care providers (Graziplene, 2009) and businesses (Kansas State University [KSU], 2010). According to Graziplene (2009), rural areas have a decreasing number of hospitals and health care professionals, leading to less access and more costly health care services. Rural areas also experience less access to amenities such as grocery stores, which have severely decreased in the past few years. Since 2007, more than 38% of the grocery stores in rural Kansas communities have closed (KSU, 2010). Since grocery stores provide communities with jobs and healthy food, the loss of grocery stores threatens rural economies and the health of rural community members (KSU, 2010).

The complex set of factors, including few jobs, economic instability and diminishing access to services, have led to rural population outmigration as young adults in particular move from rural to more urban areas (Jones et al., 2007). Thus, populations in rural areas are increasingly older, poorer, underemployed and have less access to amenities than populations of urban areas (Brown, 2008).

Despite the problems facing rural areas, there are also potential economic opportunities. Through increased wind energy project development, rural communities could benefit from new jobs and increased county revenue, while farmers and ranchers could benefit from income for leasing their land to site turbines (EERE/DOE, 2004). Potential benefits to rural areas as a result

of wind energy development could lead to "community improvement and infrastructure maintenance" (Patullo, 2010, p. 10).

All but one operational commercial wind energy projects in Kansas are in rural areas. The Elk River Wind Farm in Butler County is in a semi-urban area due to the highly populated areas of Augusta and El Dorado. Additionally, the majority of the proposed wind energy projects in Kansas are in rural areas. See Figure 1 for a visual representation of the banned, operational and proposed wind energy projects in Kansas.

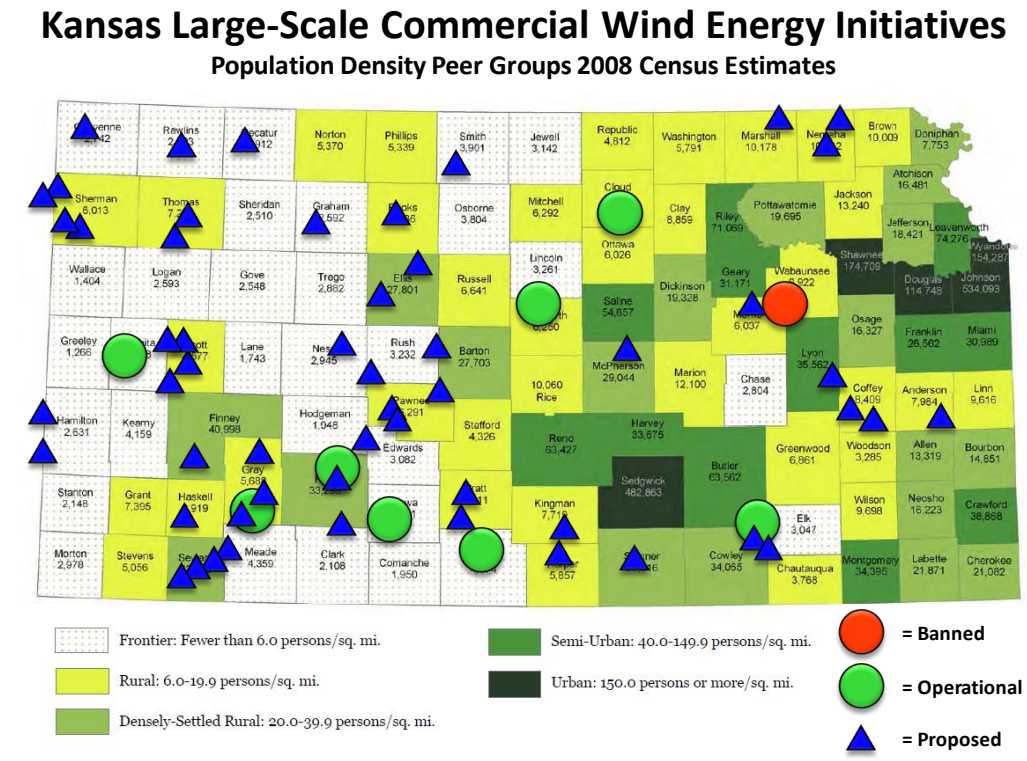

FIGURE 1. Banned, operational and proposed commercial wind energy initiatives

With increased wind energy development in rural areas, land use practices may have a significant impact on the development of wind energy projects in Kansas. The following section will discuss the land use practices of rural areas in Kansas.

Rural land use practices

Local governments have the authority to regulate land use in Kansas through state planning and zoning statutes (Kansas Energy Council [KEC], 2005). Therefore, land use practices vary across the state. According to a survey conducted by the Kansas Association of Counties (2009), only 55 of the 105 counties have adopted zoning in some or all of their unincorporated areas (any part of a county outside a municipality).

While many Kansas counties are unzoned, potential wind energy development may drive counties to evaluate their zoning practices. When unzoned counties face possible wind energy development, there are several options; they can 1) remain unzoned, 2) adopt zoning regulations, or 3) adopt a moratorium on wind energy development (KEC, 2005).

By either choosing to remain unzoned, or refraining from taking up the question of zoning, counties leave development decisions in the hands of wind energy developers and landowners. On the other hand, if counties choose to adopt zoning, they could regulate wind energy development within the entire county, a portion of the county, or cooperate with a city or town to zone contiguous land (KEC, 2005). If counties chose to adopt zoning regulations, they would be required to create a planning commission to make zoning and siting decisions. If unzoned counties are unsure whether to adopt zoning, they may adopt a moratorium on wind energy development to allow them a specified amount of time to determine whether it is necessary or desired to regulate wind energy development (KEC, 2005).

To address county concerns about wind energy development, the Kansas Energy Council (KEC) (2005) created a handbook that contains broad siting guidelines that can be applied to Kansas counties. The handbook outlines several categories that counties should consider in the development of guidelines: 1) land use, 2) noise management, 3) natural and biological

resources, 4) visual impact, 5) soil erosion and water quality, 6) safety, 7) cultural, paleontological and archeological characteristics, 8) socioeconomic, public service and infrastructure impacts and 9) public interaction. Additionally, KEC (2005) asserts that developers should be required to submit a site plan that defines the "nature and scope of the proposed project and the attributes of the specific location," as well as visual, environmental and economic impact assessments, and a decommissioning plan (p. 8).

The sustainable livelihoods approach (SLA) offers a framework and principles for analyzing the impacts of wind energy development on rural Kansas. The following section discusses these impacts.

Sustainable rural livelihoods

The SLA is both a framework for analyzing the sustainability of rural livelihoods and principles for guiding sustainable rural development (Brocklesby & Fisher, 2003). The SLA was originally developed to eliminate poverty by assessing rural environments and developing programs that advance sustainable living (Eldis, 2011); however, the SLA can also be used as a broad assessment of a variety of issues affecting the sustainability of rural livelihoods (Ashby, 2003). The Department for International Development (DFID) (1999a) outlines several components of the SLA framework: 1) livelihood assets, 2) vulnerability context, 3) transforming structures and processes, 4) livelihood strategies and 5) livelihood outcomes.

Community livelihoods are composed of capabilities and assets that communities need to survive. The framework outlined by DFID (1999b) includes five livelihood asset categories. The five livelihood asset categories, definitions and examples are presented in Table 2.

TABLE 2

LIVELIHOOD ASSET DISTINCTIONS

Livelihood asset category	Definition	Examples
Financial	Objects, resources or activities that can generate income	Selling labor
Natural	Natural resources available that can be consumed or sold	Land used to produce crops or grazing
Physical	Physical structures and tools used in making a living	Houses, schools, hospitals, combines and plows
Human	Qualities that help community members make a living	Health, education and work skills
Social	Social support of fellow community members	Friendships, familial links and support groups

(Scoones, 2005; DFID, 1999b)

The SLA asserts that communities have a stronger livelihood when they can access and use a broad range of assets (Eldis, 2011).

Community livelihoods are constantly being tested through stresses and shocks. In rural areas, communities must adapt to changing circumstances, such as a drought, in order to survive (Eldis, 2011). If a community is more vulnerable to changing circumstances, it will be less likely to survive. Scoones (2005) asserts that the level of vulnerability of the community depends largely on the strength of community livelihood. Since strong communities have more access to a wide range of assets, they can more easily adapt to stress and shocks (Eldis, 2011).

In addition to stress and shocks, social, political and economic structures and processes can influence vulnerability. Policies, institutions and legislation at local, state and federal levels can support or hinder people in making a living (DFID, 1999c). Often, the political environment hinders the poor from having a voice in decision-making (DFID, 1999c). Structures and processes should create an environment that promotes sustainable livelihoods.

Livelihood strategies consist of actions people take in order to cope with the stresses and shocks that constantly arise in their communities. There is a wide range of strategies that people enact, from diversifying assets to migration. Chambers and Conway (1991) state that there are two forms of strategies to minimize vulnerability: 1) external through public action and 2) internal through private action. Examples of external public action are programs that promote disaster preparedness or disease prevention. An example of internal private action is adding an asset, such as learning a new skill.

Livelihood outcomes are the end goals of rural development. Chambers and Conway (1991) state that equity, increased capacity and social sustainability are goals for rural development. Scoones (2005) expands on those goals and asserts that the goal of rural development is increased employment, poverty reduction, and improved well-being and capacity of community members. Additionally, these goals should be accomplished without depleting the natural resource base (Scoones, 2005).

To conclude, a livelihood is sustainable when it can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation (Scoones, 2005; Ashby, 2003; DFID, 1999a; Chambers & Conway; 1991). Along with livelihood sustainability, the SLA calls for institutional sustainability, which includes economic, environmental and social sustainability. The DFID (1999c) asserts that institutional sustainability can be achieved if there are "well-defined laws, participatory policymaking processes, and effective public and private sector organizations" (p. 7). Through sustainable institutions, the livelihood in rural areas will continuously improve.

In addition to the framework, there are seven basic principles of the SLA outlined by the Department for International Development (DFID) (1999a). These principles and their definitions are outlined in Table 3.

TABLE 3

PRINCIPLES OF THE SUSTAINABLE LIVELIHOODS APPROACH

Core concept of the SLA	Definition
It is people-centered	Analyzes community livelihoods over time and emphasizes active community member participation throughout project life cycle. Also emphasizes community capacity building
It is holistic	Recognizes the multiple livelihood strategies that communities adopt to secure their livelihoods and the multiple livelihood outcomes that are to be determined and negotiated by community members themselves
It is dynamic	Aims to understand the dynamic nature of livelihoods and what influences them.
It builds on strengths	Builds on community members' perceived strengths and opportunities rather than focusing on their problems and needs. Also supports existing livelihood strategies
It promotes micro-macro links	Examines the influence of policies and institutions on livelihood options and highlights the need for policies to be informed by insights from the local level and by the priorities of the rural
It encourages broad partnerships	Requires broad partnerships between public and private sectors
It aims for sustainability	Encourages institutional sustainability: economic, environmental and social, through lasting rural development

(DFID, 1999a)

Sustainable Livelihood Framework applied to rural Kansas

As stated earlier, rural areas in Kansas have diminishing financial assets and limited access to physical assets such as, health care facilities and local businesses. Additionally, rural areas are experiencing significant population outmigration, which contributes to fewer human assets. Thus, rural livelihoods are weakened. However, due to significant natural resources, rural

Kansas has the potential to strengthen the economic base and infrastructure through agriculture, which is currently thriving (USDA, 2011), and wind energy development, which is growing (ACORE, 2009). A larger issue is maintaining a sustainable livelihood in rural areas.

The Sustainable Livelihoods Approach would indicate that development in rural Kansas should be people-centered and promote public/private partnerships. Additionally, central to the SLA, community participation and capacity building are required in order to enhance project sustainability and community livelihood. The following section will further discuss the importance of participation in project development in rural areas.

Importance of participatory project development

The traditional top-down, development-centered approach to project development in rural areas often involves externally set project agendas and universal blueprint project plans that are not tailored to the community (Owen, 2007). Recent planning theorists place importance on community-based planning initiatives that emphasize the role of community members as key stakeholders in project decision-making (Margerum, 2002; Booher & Innes, 2002; Innes, 2004). Partnerships between project developers, representatives of local governments, businesses, associations and community members foster joint learning and negotiation (Brand & Gaffikin, 2007). Collaborative planning focuses on creating "fair and inclusive institutional settings for deliberations among public and private stakeholders" (Agger & Löfgren, 2008, p. 145). Dahl (1998) posits that effective participation, voting equality, enlightened understanding, control of the project agenda and inclusion of all adults satisfy the requirements of the democratic process of participatory development. Additionally, participation and community involvement in rural project development is seen as a mechanism to: 1) enhance project sustainability, 2) improve

project efficiency and effectiveness, 3) empower community members, build social capital, strengthen governance and 4) complement market and public sector activities (Owen, 2007).

The principles of participatory/collaborative/community-based development are essential to evaluating the role of communication in wind energy project decision-making. To evaluate community participation, a research team was developed under a sub-grant provided by the Department of Energy (DOE). The following section will explain the DOE grant and the research team.

Department of Energy research grant

Research for this thesis was funded through a sub-grant from the U.S. Department of Energy, Wind Energy and Sustainable Energy Solutions DE-EE0004167 (2010) and supported by Wichita State University's Elliott School of Communication. Under the sub-grant, the WSU Graduate Research Team was formed. The WSU Graduate Research Team was composed of WSU faculty and graduate students: Dr. Deborah Ballard-Reisch (Principal Investigator), Dr. Charles Koeber (Principal Investigator), Mr. Jeffrey Fletcher, Ms. Emily Grant, Ms. Melissa Granville, Ms. Christine Heim, Mr. Darnell Lee, Ms. Katie Thanh Le, Ms. Kathleen McConnell, Ms. Lynette Murphy, Ms. Ashley Publow, Ms. Ashley Rosenbaum, Ms. Rochelle Rowley, Mr. Charles Schoch, Mr. Todd Sullivan, Ms. Candace Tullis, Mr. Chris Voegeli and Ms. Elizabeth Winterbone.

The following section will discuss engaged scholarship as the theoretical foundation for data collection in this thesis.

Foundation for Data Collection

Engaged scholarship

Academic scholars have traditionally been concerned with theory building, which is often decontextualized, while practitioners are more concerned with practical knowledge that focuses on action in contexts (Barge & Shockley-Zalaback, 2008). However, Putnam (2009) posits that theory and practice are "reflexively intertwined" (p. 3). To bridge the gap between theory and practice, scholars often take a top-down, observer/researcher role. Engaged scholarship steers away from this traditional model and offers a collaborative model in which researchers and practitioners are partners in the research process and engage in a reflexive dialogue (Putnam, 2009).

Co-creation is a central tenet of engaged scholarship and is reflected in Van de Ven's (2007) definition: engaged scholarship is a "participative form of research for obtaining the advice and perspectives of key stakeholders to understand a complex social problem" (p. IX). Through engaged scholarship, academics and practitioners can "jointly produce knowledge that can both advance the scientific enterprise and enlighten a community of practitioners" (Van de Ven, 2007, p. 7). Furthermore, engagement with practitioners can test the reliability of findings and help translate findings into something usable for the community (Cheney et al., 2002).

Academic institutions have a unique opportunity to support and value engaged scholarship as a means of creating knowledge that can benefit the world. As Putnam (2009) stated in her keynote address at the 7th Aspen Conference on Engaged Communication Scholarship, "we as communication scholars have a unique niche to play in defining, crafting and enacting engaged scholarship because it cannot occur without communication" (p. 10).

In her keynote address, Putnam (2009) outlined four faces of engaged scholarship: applied communication research, collaborative learning, activism and social justice, and practical theory. Although distinct from one another, the faces are not mutually exclusive. Each face has "variations, permutations and vocabularies that cross into each other"; however, the overall significance of each face is distinct (Putnam, 2009, p. 5). The definitions and vocabularies of the four faces are shown in the table below.

TABLE 4

ENGAGED SCHOLARSHIP DISTINCTIONS

Face of engaged scholarship	**Definition**	**Vocabulary**
Applied Communication Research	Aims to solve real-world problems by applying academic "theory and research"	Relevant, problem-oriented, practical, useable, translation research
Collaborative Learning	Emphasizes a relational partnership between researchers and communities that aims to address social problems through a "co-creation of knowledge"	Co-creation, co-learning, conversation, partnership, community, inter/or multidisciplinary
Activism and Social Justice	Highlights advocacy for equity building and empowering the community	Action, change, inequity, moral imperative, advocacy
Practical Theory	Emphasizes theory building through a reflective process – rooted in communication	Reflexivity, dialogue, transformation, generative theory, situated action

*(*Archiopoli, 2010; Putnam, 2009)

Research conducted for this thesis was consistent with the applied communication research face, which emphasizes the practical application of communication research. Through a triangulated methodology, this thesis addressed real-world issues concerning decision-making for wind energy projects in Kansas. This thesis applied participatory project development theory and research to gain a deeper understanding of these issues. Additionally, insights gained from

this research will assist in the prediction and direction of behaviors that will facilitate informed wind energy decision-making in Kansas.

Rationale

Consistent with the applied research face of engaged scholarship (Putnam, 2009), this communication research study addressed real-world issues around wind energy development in Kansas. Through two research questions, community participation in wind energy development decision-making was assessed. Findings from two research questions addressed the overarching question: *What is the role of communication in Kansas wind energy development decision-making?*

Based on the sustainable livelihood approach (SLA), community members are the focus of rural development and initiatives designed to assist rural areas should focus on building on the strengths of the community (DFID, 1999b). As indicated in the review of participatory development literature (Agger & Löfgren, 2008; Brand & Gaffikin, 2007; Innes, 2004; Margerum, 2002; Dahl, 1998), rural development requires effective participation, voting equality, enlightened understanding, control of the project agenda and inclusion of all adults (Dahl, 1998). Additionally, community members should be viewed as key stakeholders in project decision-making (Margerum, 2002; Booher & Innes, 2002; Innes, 2004). The concepts of SLA and participatory rural development inform RQ1 and RQ2, which are intended to gather insights about communication practices in wind energy decision-making in Kansas.

Research Questions

The first research question in this study was designed to examine the perceived level of community engagement in wind project decision-making. As Owen (2007) stated, participation and community involvement in rural project development are seen as mechanisms to enhance

project sustainability, improve project efficiency and effectiveness, empower community members, build social capital, strengthen governance, and complement market and public sector activities. The first research question assessed community member perceptions of the efficiency and effectiveness of their respective wind energy project, as well as their engagement in the development process.

RQ1: What are community member perceptions about Kansas wind energy project decision-making?

The second research question analyzed the "outside" perspective on participatory development. As Brand and Gaffikin (2007) assert, partnerships between project developers, representatives of local governments, businesses and associations, and community members foster joint learning and negotiation. Whereas RQ1 addressed the perspectives of community members, RQ2 assessed the perspectives of statewide decision-makers and their views on community engagement in wind energy decision-making.

RQ2: What are the perceptions of critical stakeholders about the need for and appropriateness of engaging communities in Kansas wind energy project decision-making?

CHAPTER 3

METHODOLOGY

Grounded Research

This thesis utilized a grounded approach to generating theory. As stated in Strauss and Corbin (1998), grounded theory is a "qualitative research method that uses a systematic set of procedures to develop an inductively derived grounded theory about a phenomenon" (p. 24). In grounded theory, researchers "identify the main concern of a group of subjects and the behaviors they use to resolve their main concern" and articulate "this understanding in a theory named by a carefully chosen word or phrase that captures the subject's experience" (Artinian, 2009, p. 3).

Research conducted for this thesis was based on the four fundamental tenets of the grounded theory method outlined by Charmaz (2008). The four fundamental tenets are:

1. Researchers should minimize their preconceived notions about the research problem and the data
2. Researchers should use concurrent data collection and analysis to inform each other
3. Researchers should be open to varied explanations and/or understandings of the data
4. Researchers should focus data analysis to construct "middle-range theories" (Charmaz, 2008, p. 155)

The main component of the analytical process in a grounded theory approach is the constant comparison of data. Boeiji (2010) posits that different circumstances may yield different manifestations of the same phenomena; by constantly comparing the data, the researcher can describe the variations that occur. The idea of constant comparison is outlined in the second tenet of grounded theory (Charmaz, 2008).

In line with the second fundamental tenet of grounded theory (Charmaz, 2008), this thesis used a triangulated methodology that involves concurrent data collection and analysis. The triangulated methodology (Maxwell 2009; Green, 2007; Brewer & Hunter, 2006; Denzin, 1978) is explained in the following section.

Triangulation

The integration of data from a combination of methodologies and sources of data, or triangulation, is a research approach through which investigators examine a problem from different perspectives (Maxwell 2009; Green, 2007; Brewer & Hunter, 2006; Denzin, 1978). Triangulation provides a "coherent and comprehensive account or story of the phenomena being studied" (Greene, 2007, p. 43). In order to wholly assess the need for community member involvement in wind energy project development in Kansas, two methods were utilized: secondary analysis of case study data (Smith, 2008; Boslaugh, 2007) and key informant interviews (KIIs) (Eng et al., 2005). These methods reinforced each other and collectively informed the overarching question: *What is the role of communication with the community in Kansas wind energy decision-making?* Insights gained from the results of the secondary analysis of case study data were elaborated on through the KIIs. After all data was gathered, the results of each method were compared. This triangulated approach provided a comprehensive view of the role of community members in wind energy project decision-making in Kansas. The following section discusses the research orientation that guided this study.

Community-based Participatory Research

Community-based participatory research (CBPR) is an orientation to research that "emphasizes mutual respect and co-learning between partners, individual and community capacity building, systems change and balancing research and action" (Minkler & Wallerstein,

2008, p. 2). In CBPR, researchers and community members collaborate throughout all phases of the research, from the development of the research questions and research design, to the collection of the data and interpretation of the study results (Israel et al., 2008). Through collaboration with community members, researchers can offer techniques for community members to use to analyze their environment and make informed decisions that can improve their lives, and community members offer their expertise of the context to researchers "in pursuit of mutual knowledge and application of that knowledge to their communities" (Wallerstein & Duran, 2008, p. 27).

Community-based participatory research (CBPR) is also referred to as participatory research, participatory action research, mutual inquiry, feminist participatory research, collaborative action research and community-partnered participatory research (Minkler & Wallerstein, 2008). Although there are numerous terms associated with CBPR, all terms share the following basic principles:

- It is participatory
- It is collaborative, engaging community members and researchers in a joint process in which both contribute equally
- It is a co-learning process
- It involves systems development and local community capacity building
- It is an empowering process through which participants can increase control over their lives
- It achieves a balance between research and action

(Minkler & Wallerstein, 2008, p. 9)

Methods used for this thesis were developed using the six basic principles of CBPR as outlined by O'Fallon and Dearry (2002). This study used these principles to create methods for engaging with Butler, Kiowa and Wabaunsee counties and state level key informants:

1. Identify the target community as a cultural unit "typically characterized by a sense of identification and emotional connection to other members through common interests and a commitment to address shared concerns" (p. 157)
2. Foster active collaboration and participation by all stakeholders in every stage of the research process (p. 155)
3. Maintain a focus on co-learning, in which researchers and community members contribute their respective expertise and learn from one another (p. 156)
4. Build the project upon the needs and concerns identified by the community (p. 156)
5. Participatory research fosters "culturally relevant and understandable" information dissemination (p. 157)
6. Participatory research ensures that research and intervention strategies are tailored to the culture of the community (p. 157)

   (O'Fallon & Dearry, 2002)

Secondary Analysis of Case Study Data

Secondary data analysis involves the further analysis of existing data, collected by someone other than the person analyzing it, to answer new research questions and generate novel interpretations and conclusions (Smith, 2008; Boslaugh, 2007). Secondary data analysis enables triangulation of multiple data sources (Smith, 2008) in which existing data is re-used, re-visited, re-analyzed and compared with complementary data sources (Corti & Bishop, 2005). When

analyzing secondary data, researchers should use and interpret the data with the knowledge and insight that went into the original collection of the data (Smith, 2008).

In this thesis, the researcher analyzed existing data from case studies. According to Woodside (2010) and Yin (2009), a case study is an inquiry that seeks to understand and describe a phenomenon within its real-life context. The purpose of analyzing existing case study data is to reanalyze and interpret community member perceptions about Kansas wind energy project decision-making. The insights from the secondary analysis of case study data informed the first research question posed in this thesis.

The following sections describe the case study selection and research processes undertaken by the WSU Graduate Research Team, as well as the data analysis process conducted for this thesis.

Case selection process

The WSU Graduate Research Team was grounded in three Kansas counties: Butler, Kiowa and Wabaunsee counties. These three cases were chosen to represent diverse approaches and outcomes to wind energy project decision-making in Kansas. The first case was the Elk River Wind Farm in Butler County. This case was chosen because it was the largest wind energy project in Kansas as of August 2010. The second case was the Greensburg Wind Energy Project in Kiowa County. This case was chosen because it was the most recent project developed in Kansas as of August 2010. Additionally, the Greensburg Wind Energy Project was chosen because of the manner in which the project came to fruition. As a result of an F5 tornado that destroyed the town, Greensburg implemented a "Sustainable Comprehensive Plan" with the intention of building "new homes, schools and businesses that consume far fewer resources, increase productivity and improve human health" (Vision plan, 2007, p.1). Their goal was to

"create a model community, an example of a sustainable rural prosperity" (Vision plan, 2007, p. 1). Greensburg chose to develop wind energy as one strategy to advance these goals. The third case was the Munkers Creek Wind Energy Project in Wabaunsee County. This case was chosen because significant controversy arose surrounding the impact of commercial wind projects on the tallgrass prairie. Less than 4% of the original tallgrass prairie in North America remains and most of it rests in the Kansas Flint Hills (National Park Service, 2011). Ultimately, the Wabaunsee County Commission banned commercial wind energy project development within the county.

The WSU Graduate Research Team used the theoretical principles of engaged scholarship (Putnam, 2009; Simpson & Seibold, 2008; Barge & Shockley-Zalabak, 2008) and CBPR methods (Israel et al., 2008; Minkler & Wallerstein, 2008) to help identify community perceptions around wind energy development. The objectives of this project were to gain insight into:

- key community, government, business and other organizations, agencies, groups that must be involved in the development of sustainable wind energy projects
- processes of collaboration that must be undertaken by these organizations from conception through execution of wind energy projects
- content and methods of communication between communities and organizations that must take place to transform shared information into meaningful action that results in progress and completion of wind energy projects
- social impediments that must be overcome or avoided in development of wind energy initiatives

- technical parameters and limitations that must be considered in social and communicative processes of developing wind energy projects

The community-grounded team used CBPR methods to collaborate with Butler, Kiowa and Wabaunsee county residents in an effort to identify lessons learned that may be useful for communities and organizations as they determine whether and how to develop wind energy projects appropriate for their communities. The following section explains the grounded process of the WSU Graduate Research Team.

Case study research process

The existing data selected for secondary analysis was three wind energy project case studies in Butler, Kiowa and Wabaunsee counties. Each case study included two sources of data, that from KIIs and focus groups. Graduate students in a qualitative research methods course conducted 30 KIIs between September 22, 2010, and October 16, 2010, and nine focus groups between October 30, 2010, and November 27, 2010. Ten KIIs and three focus groups were facilitated in each of the three case study counties: Butler, Kiowa and Wabaunsee.

Data analysis process

To analyze the case study data, a process of reviewing and creating data files for both KII and focus groups was undertaken. The process is indicated below:

Creating KII data files

1. An interview was selected
2. An interview audio recording was reviewed and thorough notes taken

3. The audio recording was reviewed a second time and notes edited and finalized to create a data file

Creating focus group data files

1. A focus group was selected
2. The audio recording was reviewed and thorough notes taken
3. The audio recording was reviewed a second time, and notes edited and finalized to create a data file
4. Data files were completed for all three focus groups in each county

State-Level Kansas Decision-maker Analysis

Key informant interviews

Key informant interviews (KIIs), or expert interviews, are semi-structured conversations with participants who are knowledgeable about a topic of interest (Eng et al., 2005). Boeiji (2010) posits that interviews "provide an opportunity for researchers to learn about social life through the perspective, experience and language of those living it" (p. 62).

In this thesis, the researcher analyzed data from key informant interviews with state-level wind energy decision-makers. The purpose of conducting KIIs is to gain insight into the extent to which they involved the community in wind energy decision-making around current projects and their view of the need to do so in the future. Insights from the interviews informed the second research question posed in this thesis.

The following sections describe the key informant selection, interview and analysis processes conducted for this thesis.

Key informant selection process

Similar to research conducted by the WSU Graduate Research Team, KIIs were conducted with wind energy decision-makers in Kansas. In line with the basic principles of CBPR (Minkler & Wallerstein, 2008; O'Fallon & Dearry, 2002), KIIs were conducted through a collaborative approach in which the researcher and community members are partners in the research process. In March 2011, KIIs were conducted with 10 decision-makers. The key informants were selected from within three major categories: Kansas government officials (two KIIs), wind energy developer representatives (three KIIs) and wind advocacy group members (five KIIs). Key informants in all three groups were selected based on prior research and the Butler, Kiowa and Wabaunsee county case studies. Interviews were conducted to acquire perceptions of decision-makers regarding the need or appropriateness of engaging communities in Kansas wind energy project decision-making. Possible key informants were contacted by phone and e-mail to establish their interest in participating in this project, as well as to schedule an interview time. After a time was set, interviews were conducted over the phone.

Key informant interview process

KIIs involve a set of open-ended questions created by the researcher and expanded on by the key informant. Each set of questions was designed to acquire unique perspectives of key informants in each group; therefore, different questions were asked.

Key informant analysis process

During the KIIs, the interviewer audio recorded the interview and typed participant responses into a data file on the computer. After the interviews were conducted, an extensive

process of refining the data was undertaken. The process for creating and refining the KII data files is indicated below:

1. Interview was audio recorded and extensive notes taken
2. Within 24 hours, the audio recording was reviewed, and notes edited and finalized to create a data file
3. Data files were created for all ten KIIs

The following sections describe the methods in which each component of this thesis was analyzed.

Thematic Analysis

This study used thematic analysis (Boyatzis, 1998) to independently analyze the data collected for each method. Thematic analysis is a qualitative method used to systematically search for patterns and themes within data (Boyatzis, 1998). As described by Boyatzis, a theme is "a pattern in the information that at minimum describes and organizes the possible observations and at maximum interprets aspects of the phenomenon" (p. 4).

This study utilized an inductive/data driven approach to thematic analysis, which requires the researcher to immerse her/himself in the data, resulting in a code that is intimately linked to the raw data (Boyatzis, 1998).

Based on Boyatzis (1998), there are four steps in inductive/data driven thematic analysis:

1. First, the researcher immerses her/himself in the data and recognizes patterns that emerge from the data
2. Second, the researcher consistently encodes the data to reflect themes found inductively

3. Third, the researcher develops the code that will be used for analyzing the data
4. Lastly, the researcher finds meaning in the themes that emerged from the code and interprets findings (p. 45-50)

Each project and the methods through which they were thematically analyzed are elaborated below.

Secondary analysis of case study data

The secondary data analysis of case study data involved an inductive/data driven approach to thematic analysis. The analysis for this data falls in line with basic principles of grounded theory (Charmaz, 2008; Glaser & Strauss, 1967) and community-based participatory research (Minkler & Wallerstein, 2008; Israel et al, 2008; Wallerstein & Duran, 2008).

A rigorous process of analyzing the KII and focus group data was undertaken. The process began by analyzing KII and focus group data files independently for each county. Subsequently, emergent themes and subthemes from KIIs and focus groups were compared and contrasted for the county, resulting in a complete view of the issues in the county. Additionally, the themes and subthemes of each county were compared and contrasted with the other two counties to identify similarities and uniqueness.

After a county was selected and data files were created, the following steps for analyzing KII data were used:

Procedures for KII analysis

1. Each KII data file was read and color coded
2. An aggregate data file was created that included responses from all ten interviews from the county, by question

3. The aggregate data file was read and key content tagged
4. The tagged aggregate data file was printed and data cut into content pieces
5. Content pieces were sorted inductively into piles of like information
6. Content within piles were read for coherence and resorted as appropriate
7. Sorted content were analyzed for emergent themes and subthemes identified
8. Emergent themes and subthemes were collapsed into a new aggregate thematic analysis file
9. Data files were compared against the aggregate thematic analysis file to ensure the analysis was comprehensive and appropriate

After the KII aggregate thematic analysis file was created, the focus group data files were created and thematically analyzed to create the FG aggregate thematic analysis file.

Procedures for focus group analysis

1. Each focus group data file was read and color coded
2. An aggregate data file that included responses from all three focus groups from the county, by question was created
3. The aggregate data file was read and key content tagged
4. The tagged aggregate data file was printed and data cut into content pieces
5. Content pieces were sorted inductively into piles of like information
6. Content within piles was read for coherence and resorted as appropriate
7. Sorted content was analyzed for emergent themes and subthemes identified
8. Emergent themes and subthemes were collapsed into a new aggregate thematic analysis file

9. Data files were compared against the aggregate thematic analysis file to ensure the analysis was comprehensive and appropriate

The process of thematically analyzing KII and focus group data was first independently completed for each county. Once this preliminary analysis by county was completed for KIIs and focus groups, a summative analysis was undertaken within and across counties. The process is described below.

Within county summative analysis

1. The KII aggregate thematic analysis file and the focus group aggregate thematic analysis file were read and color coded
2. An aggregate data file was created that included themes and subthemes from both KII and focus group aggregate thematic analysis files
3. The aggregate data file was read and key content tagged
4. The tagged summative data file was printed and data cut into content pieces
5. Content pieces were sorted inductively into piles of like information
6. Content within piles were read for coherence and resorted as appropriate
7. Sorted content was analyzed for emergent themes and subthemes
8. Emergent themes and subthemes were collapsed into a final summative thematic analysis file
9. KII and focus group aggregate thematic analysis files were compared against the summative thematic analysis file to ensure the analysis was comprehensive and appropriate

Across county summative analysis

1. Each county summative thematic analysis file was read and color coded
2. A cross-county aggregate data file that included themes and subthemes from each county summative thematic analysis file was created
3. The cross-county aggregate data file was read and key content tagged
4. The tagged cross-county aggregate data file was printed and data cut into content pieces
5. Content pieces was sorted inductively into piles of like information
6. Content within piles was read for coherence and resorted as appropriate
7. Sorted content was analyzed for emergent themes and subthemes
8. Emergent themes and subthemes were collapsed into a final cross-county summative thematic analysis file
9. County summative thematic analysis files were compared against the cross-county summative thematic analysis file to ensure the analysis was comprehensive

Key informant interviews

The KIIs were analyzed using an inductive/data driven approach to thematic analysis. The analysis for this data falls in line with basic principles of grounded theory (Charmaz, 2008; Glaser & Strauss, 1967) and community-based participatory research (Minkler & Wallerstein, 2008; Israel et al, 2008; Wallerstein & Duran, 2008).

The process began by selecting a stakeholder group, and creating and analyzing an aggregate KII data file for the stakeholder group. Additionally, the themes and subthemes of each stakeholder group were compared and contrasted with the other two stakeholder groups to

gain unique and shared perspectives of state-level stakeholders' opinions on Kansas wind energy decision-making.

The following steps were followed to thematically analyze the KII data:

Procedures for KII analysis

1. Each KII data file was read and color coded
2. An aggregate data file was created that included responses from all interviews
3. The aggregate data file was read and key content tagged
4. The tagged aggregate data file was printed and data cut into content pieces
5. Content pieces were sorted inductively into piles of like information
6. Content within piles were read for coherence and resorted as appropriate
7. Sorted content were analyzed for emergent themes and subthemes identified
8. Emergent themes and subthemes were collapsed into a new aggregate thematic analysis file

Data files were compared against the aggregate thematic analysis file to ensure the analysis is comprehensive and appropriate

The process of thematically analyzing KII data was completed for each stakeholder group. Once this preliminary analysis by stakeholder group was completed, a summative analysis was undertaken across stakeholder groups. The process is described below.

Summative analysis

1. Each group aggregate thematic analysis file was read and color coded
2. A cross-group aggregate data file was created that included themes and subthemes from all KII aggregate thematic analysis files

3. The cross-group aggregate data file was read and key content tagged
4. The tagged cross group data file was printed and data cut into content pieces
5. Content pieces were sorted inductively into piles of like information
6. Content within piles were read for coherence and resorted as appropriate
7. Sorted content was analyzed for emergent themes and subthemes
8. Emergent themes and subthemes were collapsed into a final summative thematic analysis file
9. Group aggregate thematic analysis files were compared against the summative thematic analysis file to ensure the analysis was comprehensive and appropriate

To conclude, this thesis assessed community member involvement in Kansas wind energy project decision-making in an inductive, grounded manner whereby the researcher minimized her preconceived notions about the research problem and data, used concurrent data collection, remained open to varied understandings of the data and focused data analysis to construct "middle-range theories" (Charmaz, 2008, p 155). A triangulated methodology was utilized: secondary analysis of case study data (Smith, 2008; Boslaugh, 2007) and key informant interviews (KIIs) (Eng et al., 2005) to provide a "coherent and comprehensive account or story of the phenomena" (Greene, 2007, p. 43). Additionally, the data collected from these methodologies were thematically analyzed (Boyatzis, 1998) in order to identify patterns and themes within data that "at minimum describes and organizes the possible observations and at maximum interprets aspects of the phenomenon" (p. 4).

This thesis assessed: 1) community member perceptions of Kansas wind energy project decision-making and 2) perceptions of decision-makers regarding the need and/or appropriateness of engaging communities in Kansas wind energy project decision-making in

order to address the overarching question: *What is the role of communication with the community in Kansas wind energy decision-making?*

In the following chapter, the results will be discussed for each of the research questions posed.

CHAPTER 4

RESULTS

The aim of this study was to provide insight into the issues around wind energy decision-making in Kansas. More specifically, this thesis assessed the following: 1) community member perceptions of Kansas wind energy project decision-making and 2) perceptions of decision-makers regarding the need and/or appropriateness of engaging communities in Kansas wind energy project decision-making. These dynamics collaboratively informed the overarching question: *What is the role of communication with the community in Kansas wind energy decision-making?*

This chapter details study results. Two research questions ground this study. The first research question assessed the perceptions of community members in three Kansas counties regarding both the importance of community engagement in wind energy development decision-making and their perceptions of the extent of their involvement in decision-making around wind energy development in the counties. The second research question studied the perceptions of statewide decision-makers concerning the need/appropriateness of community engagement in wind energy decision-making.

RQ1: What are community perceptions about Kansas wind energy project decision-making?

In seeking to answer RQ1, data acquired from key informant interviews (KII) and focus groups conducted in three Kansas counties – Butler, Kiowa and Wabaunsee – were analyzed. Within each county, ten KIIs and three focus groups were carried out. There were a total of 30 key informants and 88 focus group participants. Participants included community leaders, wind industry representatives, journalists, lawyers, landowners and residents.

Data were analyzed for emergent themes and sub-themes. Data were analyzed first within county, then across counties. Within counties, data were analyzed first by methodology (key informant interviews and focus groups), then across methodologies to create a composite picture of the perceptions of community members about their involvement in wind energy decision-making. Once a composite view of the major and minor themes in each county was outlined, a cross-cutting analysis comparing results across all three counties was conducted.

Butler County

Key informant interviews

Descriptive summary of participants

Ten key individuals were interviewed that were perceived to have direct involvement in the decision-making process for the Elk River Wind Farm. Key informant interview participants included community leaders, landowners, county residents and local business owners. Sixty percent of the participants were male (M: n=6; 60%; F: n=2; 20%). All participants described themselves as white/caucasian. The participants ranged in age from 34 to 62 (M=50.8). All participants had at least some college education. Approximately 60 percent of the participants had a bachelor's degree and/or graduate degree.

Thematic analysis

Eight themes emerged as critical to key informants with respect to the Elk River Wind Farm: location, education, economic development, organization, community engagement, landowner initiative, developer credibility and zoning board composition.

Location. Participants expressed the importance of placing wind energy projects in appropriate locations. One participant asserted, "In general, I think development of wind energy is a good thing. I don't know that it is appropriate for every site." Another participant stated, "Wind developers want to … develop in communities where people want them." Also, one said, "[Developers should] go to an area where there is good wind, there is disturbed soil and where people want it." Three sub-themes emerged within the context of location: environmental, visual and real estate value impacts.

Sub-theme: Environmental impact. Largely, participants expressed their concern about the environmental impacts of the Elk River Wind Farm on the tallgrass prairie in the Flint Hills. One participant stated, "I think wind energy is a great idea as long as we put it in the right locations. There are some locations that should not allow wind energy to go in: the rim of the Grand Canyon, Puget Sound, Yellowstone National Park and the Flint Hills of Kansas." Furthermore, the same participant stated, "The Flint Hills tallgrass prairie used to go from Texas to Canada. Now there is only about 3 or 4 percent of it left in the entire world. To go down there and put this industrial complex right in the middle of this rapidly vanishing landscape just did not make any sense, especially because there is 8 to 9 million acres of available land [in western Kansas]." Another participant stated, "[The primary landowner] will tell you ‚[the Elk River Wind Farm] only damages the prairie where it sits'. I disagree with that because they had to build underground cables and 20 miles of roads to go to the turbines. Ground nesting birds (greater prairie chicken) won't put up with tall structures because their predators perch on them. So the turbines displace them. It is taking a pristine, native environment and industrializing it." On the other hand, one participant asserted, "The Flint Hills already had power lines, cell phone towers, transmission lines and oil production equipment. [The argument was:] should we

commercialize or industrialize the Flint Hills? My argument is the Flint Hills are already industrialized." Largely, participants agreed that environmental impacts should be considered when deciding to develop wind energy projects in the area. One participant stated, "We need to place [wind power projects] on the land that is less disruptive to the environment as possible." Another participant stated, "Siting is a key issue."

Sub-theme: Visual impact. Participants also expressed concern about the impact of the Elk River Wind Farm on the visual landscape. One participant stated, "I wasn't in favor of [the Elk River Wind Farm] because it would destroy the visual landscape..." Another participant asserted, "I also didn't want [the wind farm] obstructing the view and the visual landscape."

Sub-theme: Real estate value impact. Some participants believed that the Elk River Wind Farm affected the real estate values of landowners near the site. One participant stated, "I wasn't in favor of [the wind farm] because it would devalue the land of the Flint Hills." Additionally, one stated, "[Residents] realized that the value of their land, their real estate values would diminish [with the presence of a wind farm]; most of the local landowners were opposed to that."

Participants' experiences with perceived negative environmental, visual and real estate value impacts of the Elk River Wind Farm has led participants to assert that siting wind farms is a critical step in development. The second major theme that emerged from the key informant interviews was the importance of education in wind energy decision-making.

Education. Participants viewed education of county residents as imperative in wind energy decision-making. One participant offered, "Have all the information you can to address all of the issues that are brought up. That would involve the effects on avian wildlife, any other wildlife, domestic animals that might be in the area." Another participant offered advice to those

who are against wind power projects, "Educate yourself every way you can about wind power. Find where wind power has a place in the future." Additionally, one said, "Education is the main concern; [citizens should] learn about what it is [they] are dealing with." One participant stated, "Get educated as quickly as you can. Learn the truth. The truth will motivate people to get organized in places where turbines are not appropriate." Furthermore, one participant stated, "Be informed and don't assume wind farm developers are looking out for your best interests." Through education, participants concluded that citizens will be equipped to make critical decisions with regard to wind energy. The third major theme that emerged from the key informant interviews was the economic development supplied by the Elk River Wind Farm.

Economic development. Participants emphasized the development of the local economy through job creation, payments in lieu of taxes (PILOT), tourism and landowner leases. Also, participants discussed economic development as a critical factor in persuading decision-makers. Thus, five sub-themes emerged: job creation, PILOT, tourism, landowner leases and economic incentives that influence local decision-making.

Sub-theme: Job creation. Participants discussed the number of jobs created by the Elk River Wind Farm. One participant stated, "At one point in planning, they were talking about 25 full-time jobs. Now there are fewer than ten." Although there were jobs created, some participants expressed that the workers were not from within the community. One participant asserted, "Most of the people that do have jobs related to the wind farm live in Wichita and drive in." Another one stated, "The facility had seven technicians who worked there. At the time it began, two of them were local people. The rest of the workers drove from Wichita. Additionally, one participant said, "I thought [the wind farm] was a bad idea…they didn't use local people to build them, and it was all contractors."

Sub-theme: PILOT. Participants discussed the payments made to Butler County as a result of the development of the Elk River Wind Farm. One participant stated, "[The county] receives some benefit in that the company gives a gift to the county of $150,000 a year for ten years for the county to use however it sees fit." However, some participants believed the county would benefit more if the wind farm operator was required to pay taxes. One participant stated, "State statutes exempt [wind energy] projects from property taxes, so there was no tax revenue. At the same time, it was a $170 million project, tax revenue on that would exceed $150,000 a year. In that regard, I'm not sure the county benefitted from that." Another participant agreed, "My biggest objection was…Butler County wasn't going to get any taxation out of it. All other energy plants are taxed."

Sub-theme: Tourism. Many key informants discussed the effects of the Elk River Wind Farm on tourism in Butler County. One participant stated, "People are out looking at the wind farm." Another participant stated, "There will be a number of people who will come and look at the wind farm. Some will stop in the small town of Beaumont, which has the Beaumont Hotel. It's pretty well known for pilots to fly in and land, and eat there, then go on." Additionally, one stated, "There have been several bus tours that tour the farm." On the other hand, one participant stated, "Butler County has always had limited agri-tourism. [The wind farm] doesn't seem to have made Beaumont boom with economic activities."

Sub-theme: Landowner leases. Some participants discussed landowner leases as factor in developing Butler County's economy. One participant stated, "I suppose it has helped landowners. They have gotten an income off of the wind farm." Another participant stated, "There is some economic development for communities, in terms of landowner leases. For Elk

River, this isn't the case because there were only four landowners and only one of them lives here. Butler County doesn't really get a whole lot out of this."

Sub-theme: Economic incentives influence local decision-making. Some participants believed the promise of economic development by the developers influenced county commissioners' decision to vote in favor of the Elk River Wind Farm. One participant stated, "I'm guess it was a feeling of perhaps an economic development that persuaded the majority of the commission to approve [the wind farm]." Additionally, one asserted, "What really swung commissioners was the offer of free money for the school district. Also, the prospect of jobs on the wind farm, both construction and maintenance." Another participant affirmed, "Counties are always looking for money. [The commissioners] were influenced by wind farm promoters, promising them money."

The perceived level of economic development in the county was contentious among participants. Despite the opinion variations among participants, the concept of economic development is critical to the perceived success of the Elk River Wind Farm. Also, the promise of economic development to the county was considered to have a significant impact on the decision to develop the Elk River Wind Farm. The fourth major theme that emerged from the key informant interviews was the organization of group efforts to support or oppose wind energy development.

Organization. Participants identified organization as vital for groups or individuals who desire to effectively support or oppose wind energy projects. Specifically, members of the community who opposed the wind farm in the Flint Hills organized Protect the Flint Hills, which was critical in getting like-minded citizens together. One participant stated, "Organizing the Protect the Flint Hills and Tallgrass Ranchers [was something those against the project did right].

These [organizations] have been a powerful tool to protect the Flint Hills. It has drawn attention to the rarity of the Flint Hills." Another participant stated, "[Those who are against wind power projects should] be organized with people of like-mind. [They will] need an organization and resources." Additionally, both those for and against the project agreed that those against the project should have organized early. One participant stated, "The people who were opposed to [the wind farm] were individuals. Maybe they didn't try to organize. Perhaps if they were organized and had resources, they would have been more effective. Protect the Flint Hills was in its infancy. [The Elk River Wind Farm] came out of left field." One member of the opposition stated, "We didn't get organized soon enough. People who live around the area should have signed a petition sooner. They didn't throw a fit early enough." Not only did participants assert that organization is an important tool in opposing or supporting projects, but they also indicated that organizing early is crucial. The fifth theme that emerged from the key informant interviews was the value of engaging the community in the decision to develop the Elk River Wind Farm.

Community engagement. Participants concluded that Butler County provided channels through which participants viewed there was significant community engagement. Two sub-themes emerged within the context of community engagement: public dialogue and information dissemination.

Sub-theme: Public dialogue. One participant stated, "It was a very lengthy public hearing process. [There were] a number of long meetings. I think that anybody that was concerned had an opportunity to state their feelings. There were adequate public hearings." Furthermore, one asserted, "We had probably a half a dozen hearings/meetings over at the county courthouse. We had so many people that wanted to participate that we had to move the meetings to evenings so

people could come after work." Additionally, one participant stated, "We debated [the wind farm] at a number of public meetings."

Sub-theme: Information dissemination. Both those who opposed and supported the Elk River Wind Farm agree that information dissemination is a critical factor in wind energy decision-making. One participant stated, "[There] was a hearing scheduled before the county planning commission. A publication/notification of the hearing was published in the official county newspaper 20 days before the hearing in accordance with state law. Also, notification was mailed out to all property owners within 1,000 feet of the proposed project…" One participant stated, "[The opposition] communicated through letters to the editor, the [Protect the Flint Hills] website, direct mail and attended commission meetings."

Participants viewed community engagement through public dialogue and information dissemination as decisive in the decision-making process around the Elk River Wind Farm. The sixth theme that emerged from the key informant interviews was the importance of one landowner's initiative toward developing the Elk River Wind Farm.

Landowner initiative. Participants credit one landowner for spearheading the Elk River Wind Project in Butler County. One participant stated, "[The primary landowner] had been researching industrial wind energy for some time and secured the services of a development company…That company assisted him in the developing of the [Elk River Wind Project]." Another key informant asserted, "[The primary landowner] was in favor of the wind farm and he pushed for it to go through." The primary landowner affirmed, "This project probably would have failed if I had not stood up and thrown my weight behind it during the permitting process in Butler County." Participants indicated that the Elk River Wind Farm was successfully developed because of one landowner's initiative. The seventh theme that emerged from the key informant

interviews was the importance of developer credibility during wind energy project decision-making and operation.

Developer credibility. The perceived level of developer credibility was contentious among participants. Some participants discussed the secretive and deceptive nature of the developer of the Elk River Wind Farm. Other participants discussed the reliability of the developer. One participant stated, "Industrial wind developers throughout the world rely on the element of surprise. One reason for that is because they compete against one another for leases so they don't want anyone to know what they are doing. Another thing is they want to take the communities by surprise so that people don't have time to learn what projects are about and organize." Another participant asserted, "The [Elk River Wind Farm] developers came in the back door." Additionally, one participant stated, "[There was] some deceit by the developer. I don't know how much was intentional. They were deceitful about wind energy as a replacement for petroleum. We don't produce electricity by petroleum. They were successful in making people believe this." On the other hand, one participant stated, "[The developer] had proven what they could do and how they could do it through previous projects. They meant what they said and they were here to stay." Additionally, one participant asserted, "[The developer team] read the El Dorado Times every day and knew everything that was going on in Butler County. They made it clear that they wanted to be a good neighbor in Butler County." Also, one participant stated, "I think [the developer was] truthful. They were upfront with us. They proved they weren't one of those companies that would get sold the next day and we'd be left with a big clean-up project." Despite the contention between participants, all believed the developers should be credible, truthful and reliable. The eighth theme that emerged from the key informant

interviews was the critical county decision to add two commissioners to the board in the middle of the Elk River Wind Farm decision-making process.

Zoning board composition. Participants discussed the critical nature of adding two commissioners to the county commission board during the Elk River Wind Farm deliberations. One participant stated, "In 2002, the county commission board went from three to five commissioners because we felt we needed a wider representation." Many participants viewed that the change from three to five commissioners led to the decision to build the wind farm. One participant stated, "The reason the Elk River Wind Farm was approved was not because it was a good location or good project or financing or good balance sheet but because there were two new commissioners who were not up to speed on the issue of wind." Another participant stated, "The addition of the two new county commissioners [was a critical point in the process]; otherwise, the wind farm project would have never happened." Additionally, one participant stated, "When it came down to voting to approve or not, that was the first commission meeting for the two new commissioners, who didn't have much background on the process, but were required to vote." Participants viewed the addition of two new commissioners to the board was critical to the decision to approve the wind farm.

Key informant interview summary

In the key informant interviews the siting of wind projects was viewed as a priority in the wind energy development process, this includes selecting locations that are void of any major negative impact on the environment, visual landscape and real estate values. Through education, participants concluded that citizens will be equipped to make critical decisions with regard to wind energy. Also, participants viewed the concept of economic development as critical to the perceived success of the Elk River Wind Farm and the promise of economic development to the

county was considered to have a significant impact on the decision to develop the Elk River Wind Farm. Participants identified early organization of support and/or opposition for projects as critical in the decision-making process. Additionally, community engagement through public dialogue and information dissemination was considered decisive in the decision-making process around the Elk River Wind Farm. Participants perceived that the approval and development of the project was due to the initiative of one landowner and the addition of two new commissioners to the board. Developer credibility, truthfulness and reliability throughout the decision-making process were also viewed as essential.

Focus groups

Descriptive summary of participants

Three focus groups were conducted with a total of 15 participants. Focus group participants included county residents. Sixty percent of the participants were male (M: n=8; 53%; F: n=5; 33%). All but two participants described themselves as white/caucasian. The participants ranged in age from 22 to 68 (*M*=47.3). Nearly three-fourths of the participants had a high school diploma and approximately one-third of the participants had a bachelor's degree and/or graduate degree.

Thematic analysis

Five themes emerged as critical to focus group participants with respect to the Elk River Wind Farm: location, developer credibility, community impact, community engagement and education.

Location. Participants viewed location as an important aspect of the development process. One participant stated, "I believe wind energy is a good thing, but in the right places. I

mean in the right area. I am not for anything in the Flint Hills. Western Kansas would be way better place for [wind farms]." Another participant asked, "Why put [the wind farm] here? Put wind farms in western Kansas or Colorado." Additionally, one stated, "There are places where wind power makes sense, and there are places where wind power doesn't make sense. Down in one of the most beautiful areas in Kansas, it doesn't make sense." Appropriate siting was viewed as critical in Kansas wind energy decision-making in the focus groups. Specifically, participants viewed the Flint Hills as a place to avoid when considering a wind energy project. The second major theme that emerged from the focus groups was the importance of developer credibility.

Developer credibility. Participants expressed that developers tend to be deceptive. One participant asserted, "My opinion [of wind energy has] changed due to how wind developers deceived landowners. They tell landowners to not tell anybody [about landowner leases]. It is a secret and [that] pitted people against one another." Another participant stated, "Developers seem to have no care as to what [the wind farm] does to people's lives." Additionally, participants discussed the appropriate conduct of developers. One participant stated, "From my experience, the wind developers need to be more up front with their information." Another participant asserted, "[Developers should] communicate honestly and ethically to the citizens." The partnership between citizens and developers requires credible, honest action by developers. The third major theme that emerged from the focus groups was the impacts of the Elk River Wind Farm on the community.

Community impact. Throughout each focus group, participants discussed the positive and negative ramifications of the Elk River Wind Farm on the community. Five sub-themes emerged: infrastructure, environmental, visual, economic and relational impacts.

Sub-theme: Infrastructure impact. Focus group participants illuminated the effect the Elk River Wind Farm has on the roads in the county. One participant stated, "[The wind farm] tore township roads up – [the developer] did put gravel back on, but not as much as needed." Another participant asserted, "The roads were torn up. The wind farm [developer] never paid for the roads to get fixed. The county had to pay for that." Additionally, one participant offered advice for developers: "[Developers should] avoid property and road damage."

Sub-theme: Environmental impact. Another focus of the participants was the environmental impacts of developing the Elk River Wind Farm in the Flint Hills. Some participants stated that the Elk River Wind Farm had negative impact on the environment. One participant stated, "It is sad for the tallgrass prairie because they are all covered in wind turbines. We have lost a precious eco-system." Another participant asserted, "Pristine, natural areas that are one of few unspoiled areas of natural prairie left in the world have a wind farm on it now." Additionally, one stated, "I know one of the concerns was birds getting whacked by propeller blades." On the other hand, some participants stated that the wind farm only has minimal impact. One participant stated, "The footprint of the wind farm site on the land (roads and turbines) is less than 2% of 7,000 acres." Additionally, one participant stated, "[Iberdrola] pays for people to come out and do bird studies and graph out each turbine compared to bird carcasses found. They also do prairie chicken studies during their breeding. They have found minimal impact."

Sub-theme: Visual impact. Participants discussed the visual impacts associated with the Elk River Wind Farm. Some participants viewed the wind farm as an eyesore. One participant stated, "[There are] red blinking lights – the view isn't what it used to be. Now, I walk out on my back porch, and it's red blinking lights all over the sky." Another participant stated, "[The Elk River Wind Farm has had a] negative impact on the [visual] landscape…when you look at the

magnitude of the art of the Flint Hills you can see nothing but hills. The more we crap it up, we are not going to have any left." On the other hand, one participant stated, "People look at the wind farm and say it's the most beautiful thing they've ever seen."

Sub-theme: Economic impact. This sub-theme was critical to participants. In all focus groups, participants discussed the economic impacts of the Elk River Wind Farm to Butler County. Some participants believed the economic impact was insignificant to the county. One participant stated, "The economic development was nothing…there are seven to eight employees, and everyone lives in Wichita except for one. For Butler County, the economic development happens when they are building the construction site. But if you were watching the construction, everyone was in an out-of-state truck. Economic development – I have not seen it, and I still do not see it. It was temporary, if it was at all." Another participant stated, "County residents get nothing." Some participants believed it was beneficial to the county. One participant stated, "[The wind farm] brought more jobs and careers to the county – about 10 to 12 more jobs." An employee of Iberdrola stated, "Through the taxes and different things that the site does pay, we put a lot of money into the county. We also provide money for grants and fund studies…. It has been good for the county and areas such as the Beaumont Hotel with groups coming through there, and also extra income coming into the landowners." Furthermore, the Iberdrola employee stated, "Our company pays the property tax to Butler County. The construction groups were hired from local areas, which provide an economic boost. The short term in six months of 200 jobs and the long term 12 jobs from the company that runs the wind farm for years to come." Another participant asserted, "Busloads of 60-plus people come into Beaumont to see the wind farm. It goes back to benefiting the local businesses around the wind farm."

Sub-theme: Relational impact. Participants believed the Elk River Wind Farm had an impact on the relationships between community members. One stated, "Any time you have controversy in a small town, [it is] going to split your friendships [because] it hits a little close to home." Another stated, "[The Elk River Wind Farm] tore the community apart." Additionally one asserted, "The friendships lost and strained [because of the wind farm] is sad."

Participants emphasized the positive and negative ramifications of the Elk River Wind Farm on the community, including impact on the city infrastructure, environment, visual landscape, economy and relationships among community members. The fourth major theme that emerged from the focus groups was the importance of engaging community members in decision-making.

Community engagement. During the decision-making process for the Elk River Wind Farm, participants viewed their involvement was limited. Two sub-themes emerged: access to information and community influence in decision-making.

Sub-theme: Access to Information. Participants believed that during the decision-making process information was privileged. One participant stated, "[The public] had very little information." Another one stated, "Commissioners had all the information and weren't forthcoming. They didn't make it public that none of the energy was coming here." Additionally, one participant stated, "I heard it through word of mouth; [the planning commission and county commission] did not publish [information about the meetings] until right before [the meetings] came up." Furthermore, one asserted, "County planning people were aware [of the project], but it was not made public. Unless it's a person who is constantly going to planning and zoning meetings, we did not know anything."

Sub-theme: Community influence in decision-making. Focus group participants viewed their influence in the decision to develop the Elk River Wind Farm was limited. One participant stated, "[The decision-making process] was here and gone before we knew it." Another participant stated, "[The public] did not have a voice." In referring to the amount of influence groups and individuals had during the process, one asserted, "[The decision-making] process was done before most people found out." Another participant stated, "Everyone in the county should have had input. It should have been put to a popular vote by the county." Additionally, one participant asserted, "Let the communities make the decisions."

Although participants concluded their involvement in the Elk River Wind Farm decision-making process was limited, they believed community members should have significant input in project decision-making. The fifth major theme that emerged from the focus groups was the importance of education to wind energy decision-making.

Education. Participants viewed education as a means to making informed community decisions about wind energy. One participant asserted, "The majority of groups that I've talked to are educated in the stories that hit the news, but not educated about the behind-the-scenes type of things about wind power. [County citizens should] become more educated about wind, as far as who benefits from it. To best argue your position, you need to be educated on both sides of it." Another participant offered, "Utility companies are going to tell you what you want to hear, which is why it's important to do your own research." Focus group participants agreed that the public needed to be more educated about wind energy, in general, and the Elk River Wind Farm, in particular. To make informed community decisions about wind energy, participants asserted that education was critical.

Focus group summary

Focus group participants viewed appropriate siting as critical in Kansas wind energy decision-making. Specifically, participants viewed the Flint Hills as a place to avoid when considering a wind energy project. Also, the partnership between citizens and developers requires credible, honest actions by developers. Participants emphasized the positive and negative ramifications of the Elk River Wind Farm on the community, including impacts on the city infrastructure, environment, visual landscape, economy and relationships among community members. Throughout the decision-making process, participants concluded their involvement was limited and believed community members should have significant input in project decision-making. Participants also concluded that in order to make informed community decisions about wind energy, community members need to be educated on the project and wind energy in general.

Butler County synthesis

Within Butler County, six themes emerged as critical to key informants and focus group participants: location, education, economic development, community engagement, developer credibility and zoning board composition.

Location. Across key informant interviews and focus groups, participants viewed location as an important consideration in wind energy decision-making. One key informant stated, "In general, I think development of wind energy is a good thing. I don't know that it is appropriate for every site." One focus group participant asserted, "I believe wind energy is a good thing, but in the right places. I mean in the right area. I am not for anything in the Flint Hills. Western Kansas would be way better place for [wind farms]." Key Informants and focus group

participants both considered the siting of wind farms as a critical aspect of wind energy development. The second major theme that emerged from both key informant interviews and focus groups was the importance of education in wind energy decision-making.

Education. Both key informants and focus group participants viewed education as an important tool for making informed decisions about wind energy. One focus group participant asserted, "The majority of groups that I've talked to are educated in the stories that hit the news, but not educated about the behind the scenes type of things about wind power. [County citizens should] become more educated about wind, as far as who benefits from it. To best argue your position, you need to be educated on both sides of it." Furthermore, a key informant stated, "Get educated as quickly as you can. Learn the truth. The truth will motivate people to get organized in places where turbines are not appropriate." Education was viewed as a crucial aspect of making informed decisions about wind energy. The third major theme that emerged from the key informant interviews and focus groups was the economic development provided by the Elk River Wind Farm.

Economic development. In both key informant interviews and focus groups, there was a wide range of opinions: 1) the Elk River Wind Farm provided significant economic development and 2) the wind farm provided limited to no economic development. One key informant stated that "[The county] receives some benefit in that the company gives a gift to the county of $150,000 a year for ten years for the county to use however it sees fit." Another key informant asserted, "There is some economic development for communities, in terms of landowner leases…" One focus group participant stated, "Through the taxes and different things that the site does pay, [Iberdrola] put a lot of money into the county. [Iberdrola] also provide money for grants and fund studies….It has been good for the county and areas such as the Beaumont Hotel

with groups coming through there, and also extra income coming into the landowners…[Iberdrola] pays the property tax to Butler County. The construction groups were hired from local areas, which provide an economic boost…" On the other hand, some participants viewed the economic development to be limited to nil. One focus group participant stated, "The economic development was nothing…there are 7-8 employees and everyone lives in Wichita except for one. For Butler County, the economic development happens when they are building the construction site. But if you were watching the construction, everyone was in an out of state truck. Economic development – I have not seen it and I still do not see it. It was temporary, if it was at all." Although the county receives $150,000 a year for 10 year, some key informants believed the county would benefit more if the wind farm operator was required to pay taxes. One key informant asserted, "State statutes exempt [wind energy] projects from property taxes, so there was no tax revenue. At the same time it was a $170 million project, tax revenue on that would exceed $150,000 a year. In that regard, I'm not sure the county benefitted from that." Although there was variation among participants, economic development was viewed as a critical aspect of the decision-making and development process. The fourth major theme that emerged from key informant interviews and focus groups was the engagement of community members in decision-making.

Community engagement. Participants across key informant interviews and focus groups believed that the public was and should be a key stakeholder in decision-making. Key informants generally considered their involvement to be sufficient. One key informant stated, "It was a very lengthy public hearing process. [There were] a number of long meetings. I think that anybody that was concerned had an opportunity to state their feelings. There were adequate public hearings." On the other hand, focus group participants believed their involvement in the Elk

River Wind Farm decision-making process was limited. One focus group participant stated, "[The decision-making process] was here and gone before we knew it." Additionally, one asserted, "[The public] did not have a voice." Key informants and focus group participants held different opinions about the capacity in which they were involved in decision-making; however, all participants viewed community engagement as essential to project decision-making. The fifth major theme that emerged from both key informant interviews and focus groups was the credibility of the project developer.

Developer credibility. The trustworthiness of developers was present in both the key informant interviews and the focus groups. Some participants described the conduct of developers as deceitful and secretive. One focus group participant stated, "Developers seem to have no care as to what [the wind farm] does to people's lives." Furthermore, one key informant asserted, "The [Elk River Wind Farm] developers came in the back door." On the other hand some participants asserted that the developer was sincere. One participant stated, "I think [the developer was] truthful. They were upfront with us. They proved they weren't one of those companies that would get sold the next day and we'd be left with a big clean-up project." There were some discrepancies among participants in regard to the developer's credibility but all participants concluded that developer credibility was important to the success of the project. The sixth major theme that emerged as critical to Butler County was the addition of two county commissioners to the county board during the decision-making process of the Elk River Wind Farm.

Zoning board composition. Although unique to only the key informants, the move from three to five commissioners was a critical piece of the puzzle in Butler County. One key informant stated, "The reason the Elk River Wind Farm was approved was not because it was a

good location or good project or financing or good balance sheet but because there were two new commissioners who were not up to speed on the issue of wind." Another participant stated, "The addition of the two new county commissioners [was a critical point in the process], otherwise the wind farm project would have never happened." The addition of the two commissioners was viewed as an important reason why the Elk River Wind Farm was approved.

Butler County synthesis summary

Butler County participants considered the siting of wind farms as a critical aspect of wind energy development; this was largely due to opposition of the placement of the Elk River Wind Farm in the Flint Hills. Although there were varied opinions among participants, economic development was believed as essential to the decision-making and development process. Additionally, participants recognized the importance of education and community engagement in wind energy decision-making. In both key informant interviews and focus groups, participants concluded that the developer's credibility was important to the success of the project. Furthermore, unique to key informant interviews, the transition from three to five county commissioners was critical to the approval and development of the Elk River Wind Farm.

Kiowa County

Key informant interviews

Descriptive summary of participants

Ten key individuals were interviewed in Kiowa County. Key informants involved individuals who were perceived to have direct involvement in the decision-making process for the Greensburg Wind Farm including community leaders and wind industry representatives. Eighty percent of the participants were male (M: n=8; 80%; F: n=2; 20%). All participants

described themselves as white/caucasian. The participants ranged in age from 30 to 82 (*M*=56.7). Seventy percent of the participants had some college education; forty percent had a bachelor's degree and or graduate degree.

Thematic analysis

Five themes emerged as critical to community members with respect to the Greensburg Wind Farm: commitment to sustainability, multiple stakeholder collaboration, education, economic development and leadership.

Commitment to sustainability. Greensburg's commitment to sustainability is a foundation theme in community members' assessment of the Greensburg Wind Farm. Two sub-themes emerged within the context of this community commitment: wind energy development consistent with Greensburg's post-tornado recovery plan and Greensburg as a model of sustainable development.

Sub-theme: Wind energy development consistent with Greensburg's post-tornado recovery plan. Participants viewed the development of the Greensburg wind farm as a result of the city's recovery plan. A foundation premise of this plan was the decision to go "green" after the tornado in 2007. One participant stated, "In 2007, Greensburg was 90% destroyed from a tornado. In our efforts to rebuild, we went directly into planning a new process, including being sustainable, fiscally responsible, building green and building smarter…our ultimate goal in our long-term planning was to become 100% renewable, 100% of the time, if feasible for our community." Another participant stated that the decision to develop wind energy "validates and supports the direction Greensburg has taken to try and be a green community." Another participant concluded, "The wind farm fits right with that whole [building green] package."

Finally, a participant stated, "[the wind farm] was a good idea because it would ensure 100% of our energy came from renewable sources. This is a demonstration of our commitment to sustainability…" In addition to the view that developing the wind farm was a result of their recovery plan and their commitment to sustainability as a green community, participants also saw the potential of building a model green community that would be of interest of others outside Greensburg.

Sub-theme: Greensburg as a model of sustainable development. Many participants discussed the importance of the attention the city is getting because of Greensburg's commitment to sustainability. One participant said, "We have so many people come into town looking at this community being the greenest community…and we have a wind farm." Another participant said, "[the wind farm] has brought media attention to the sustainable efforts of the community." Additionally, a participant suggested that the wind farm "is going to put Greensburg on the map."

Greensburg's post-tornado recovery plan was the foundation for its sustainability efforts, which included the development of the Greensburg Wind Farm. This commitment to sustainability and building "green" has brought attention and interest to the community from outside of the community. The second major theme that emerged from the key informant interviews was the importance of multiple stakeholder collaboration in the development process.

Multiple stakeholder collaboration. The majority of participants believed that active collaboration among internal and external stakeholders assisted the development of the Greensburg Wind Farm. Two sub-themes emerged within the context of stakeholder collaboration: internal stakeholder involvement in decision-making and the importance of collaboration with external experts in the development of Greensburg Wind Farm.

Sub-theme: Internal stakeholder involvement in decision-making. One participant stated that "all entities that came together…public and private…really made the process work." One participant acknowledged that "all residents of Kiowa County and Greensburg, and the partners involved were key to making [the wind farm] work…" Furthermore, one stated, "[Greensburg] citizens had a tremendous amount of feedback. They were putting in input from day one." Although the majority of the participants agreed that community members were active members in the decision-making process, a few key informants believed community members were not involved. One participant stated that "the City of Greensburg were the happy innocent by-standers" in decision-making. In addition to the view that internal stakeholder involvement in decision-making was critical, participants recognized the significant role of external expert collaboration in developing the Greensburg Wind Farm.

Sub-theme: The importance of collaboration with external experts in the development of the Greensburg Wind Farm. Many participants identified collaboration with outside experts like the Department of Energy, National Renewable Energy Laboratory, John Deere Wind Energy, Native Energy and Kansas Power Pool as essential to the viability of the project. One participant stated, "As all these entities came together, the wind farm came about." Additionally, one stated, "the Department of Energy was very instrumental in what became a high-momentum option to explore alternative energy and helped develop [the city's] options." Largely, participants agreed that the partnerships with external experts were valuable. One participant stated, "[The city] had a lot of help from experts, like the Department of Energy and National Renewable Energy Laboratory, and they helped us evaluate our options."

As indicated, active collaboration among internal and external stakeholders assisted the development of the Greensburg Wind Farm. Specifically, the involvement of internal

stakeholders, including city and county citizens, in decision-making and collaboration with external experts, such as the Department of Energy, assisted in the development of Greensburg Wind Farm. The third major theme that emerged from the key informant interviews was the importance of education in the development process.

Education. Participants viewed education as important to the development of the Greensburg wind farm. Many participants offered that county residents, both for and against wind projects, should self-educate. One participant stated, "[Citizens should] continue to study and watch and learn about [wind energy projects]. The learning part is crucial." Additionally, participants placed some responsibility on the wind companies to educate the public. One stated, "Most people are not knowledgeable of [wind farms]…I think a lot of people are just ignorant to the technologies; the placements of the farms have to be researched thoroughly…most of these wind farm entities have to do some serious education to the public about these wind farms because they don't understand the wind technology." Participants saw education as vital to the development of the Greensburg wind farm and suggested both self-education and general public education were important. The fourth major theme that emerged from the key informant interviews was the emphasis on the economic development of the Greensburg Wind Farm for the community.

Economic development. Many participants viewed the project as a means of developing the economy within the community. One participant stated, "[The Greensburg Wind Farm] has brought additional income to landowners, and brings dollars into our community." As one participant stated, "The wind farm has brought jobs to town." Along with providing income to landowners and economic growth for the community, a few participants viewed the Greensburg Wind Farm as a means of delivering affordable electricity to the area. One participant stated,

"Greensburg right now is pretty well set. For ten years or better, there is a nice piece of wind energy pie for Greensburg, as far as [electric] rates are concerned." The Greensburg Wind Farm was regarded by participants as a way of boosting the local economy. The final theme that emerged from the key informant interviews was the value of leadership in the decision-making process.

Leadership. Participants asserted that strong leadership was a critical force behind the development of the Greensburg Wind Farm. One participant stated, "I think our leadership through Steve Hewitt and the City Council supporting the project…was important." Also, one asserted that "courageous leadership" and "taking a risk and doing things differently than they'd done before" was important to making the wind farm happen. Leadership was seen as the critical tipping point in the decision-making process, and decision-making was directed by city leaders.

Key informant interview summary

The foundation for the Greensburg Wind Farm was the post-tornado recovery plan that boosted the town's efforts to build "green." As a result of the city's commitment to sustainability and the building of the wind farm, the city has brought outside attention and interest to the community. Throughout the decision-making process, the involvement of internal stakeholders and collaboration with external experts were critical to the development of the Greensburg Wind Farm. Additionally, participants viewed education and city leadership as vital to the decision to develop the wind farm. A critical result of the wind farm was the economic development of the community.

Focus groups

Descriptive summary of participants

Three focus groups were conducted in Kiowa County. Focus groups involved 13 county residents. Approximately half of the participants were male (M: n=7; 54%; F: n=6; 46%). All participants described themselves as white/caucasian. The participants ranged in age from 24 to 77 (*M*=47.6). More than three-fourths of the participants had some college education. Nearly half of the participants had a bachelor's degree and/or graduate degree.

Thematic analysis

Six themes emerged as critical to community members with respect to the Greensburg Wind Farm: commitment to the "green" city plan, trust, public information, community benefit, location and education.

Commitment to the "green" city plan. Focus group participants viewed the development of the Greensburg Wind Farm as complementary to their plan to rebuild "green" after the tornado in 2007. One participant stated, "[The Greensburg Wind Farm is] consistent with the green rebuilding; it's just part of that piece, another piece of the puzzle." Participants also expressed that the turbines were a visual representation of their commitment to the "green movement." One asserted, "If we're going to be seen as a green community, that's a big statement to make. Seeing the windmills is kind of exciting, it makes you feel like you're making progress in the green movement." Additionally, one participant stated, "Greensburg is known as being the new energy efficient town and having the wind farm helps add to their credibility of being an energy efficient community." Community members concluded the development of the

Greensburg Wind Farm supported the city's "green" rebuilding plan. The second major theme that emerged from the focus groups was the value of trust in both developers and city leaders.

Trust. Participants expressed the need to trust developers or owners of the wind farms. Also, participants placed a lot of trust with decision-makers to make appropriate decisions for the city. Thus, two sub-themes emerged: 1) developer/operator credibility and 2) decisions rest with decision-makers.

Sub-theme: Developer/operator credibility. A common sub-theme among the focus groups was the trustworthiness of developers/operators. Some participants discussed the value of transparency in contracts or leases between landowners and developers. One participant stated, "At first, there can be a lot of suspicion and questions about landowners and farmers about what they're really getting themselves into. They see long contracts and talk to attorneys, and… [Developers] can be honest and lay out terms those landowners can trust and understand." Additionally, a landowner stated, "When I got their contract, I took it to my attorney and one of the things he said was the way the contract is written up they can pave your farm; so we went through it and marked up some things we should get some consideration on. I went ahead and signed it anyway; it's always been kind of a concern to me as to what they're up to." Furthermore, one participant stated, "The more [developers] can understand the farmer needs and points of view, the better off everyone would be; they should set up those leases like they would if it was their land." In addition to contract and lease transparency, participants discussed the value of a rapid response by the developer in addressing issues of the landowner. One stated, "[The developer] said they only needed one acre to put [the turbines] on, but they took three acres [with loose cables]. When I mentioned it to them, they took care of it." Participants also discussed the value of building trust. One participant asserted, "The more that you can build a

trust [between local people and company]… if the local people think a big company is trying to hoodwink them, they'll probably resist."

Sub-theme: Decisions rest with decision-makers. Participants also discussed placing a great amount of trust in the hands of decision-makers to make appropriate decisions. One participant stated, "God put [elected officials] in those positions to make decisions before the tornado, and we had confidence in those people [to make the decision about the wind farm]." Additionally, one offered, "If you had some input from the whole town every time we put our foot down, we would still be in tents. There's no way you could build a town from scratch, so you leave these decisions to [decision-makers]."

The value of trusting developers is critical to negotiating fair landowner leases and ensuring good relations between communities and developers. Additionally, during the Greensburg Wind Farm decision-making process, community members placed a lot of trust in elected officials to make appropriate decisions for the community. The third major theme that emerged from the focus groups was the importance of access and availability of public information to wind energy decision-making.

Public information. Participants discussed information dissemination and public access to and availability of information; two sub-themes emerged: modes of information dissemination and information availability.

Sub-theme: Modes of information dissemination. Largely, participants gained their information from word of mouth and the local newspaper. One participant stated, "I heard about [the wind farm] from my church, preacher and newspaper." Another said, "Lots of people were talking about it." Additionally, one asserted, "There was a lot [of information] in the paper about

[the wind farm] that you could read." Additionally, one participant stated, "The newspaper had reported on the status of the wind farm project periodically. To me, it was reading what the newspaper had to say and following along, but only getting information occasionally."

Sub-theme: Information availability. Largely, participants viewed that public access to and availability of information was limited. One participant stated, "I just don't think there was lot of information out there. Maybe I wasn't asking the questions, but I didn't think there was a whole lot of information brought forward." Another participant stated, "I don't think the information was available to the public anywhere." Additionally, one participant discussed the limited number of public meetings, stating, "I thought there would be more meetings on the farm itself. Maybe I haven't been looking down the right avenues, but there haven't been much meetings about it." Some participants viewed access to information as appropriate only for the private entities building the project. One stated, "I didn't feel like we were provided with much information, but that was a private business matter that we're not entitled to." Also, another participant stated, "The wind farm came late and when the big flood of information was coming, that wasn't a part of it. And I didn't hear it being talked about because it was a private industry." One participant stated, "You wouldn't go to city council to find out about [the wind farm] because it was privately owned." In addition to viewing information as appropriate for private entities, participants also expressed that there may have been information available, but after the tornado, they did not have the capacity to find it. One participant stated, "There could have been enough information. I was busy with so many other things, and I knew it was getting built, so that's all I needed to hear." Also, one stated, "If there were people dispensing information, I wasn't paying attention."

The majority of Greensburg community members gained their information through word of mouth. There were some discrepancies in opinions among focus group participants about whether there was an appropriate amount of information available. Many participants viewed that any information regarding the Greensburg Wind Farm was none of their business and appropriate only for private entities involved in the project decision-making. The fourth major theme that emerged from the focus groups was the community benefits associated with the Greensburg Wind Farm.

Community benefit. The benefits associated with the Greensburg Wind Farm were a central theme to the focus groups. There sub-themes emerged in regard to community benefit: economic development, electricity and publicity.

Sub-theme: Economic development. Across all focus groups, participants agreed that the Greensburg Wind Farm has given a boost to the city's economy. One participant affirmed, "As we were rebuilding the town, the people who built the farm could stay here, eat here and buy groceries here, so economically, it was a good thing for us." Additionally, one participant stated, "Economically, it's had a positive impact, and people are spending their dollars here." Also, one participant stated, "It will increase the tax base, but the private company pays for those taxes." In addition to increasing the economy county-wide, participants viewed the wind farm as a boost to individual economy. One participant stated, "It generates income for landowners." Furthermore, one said, "[The wind farm has] helped out economically for the people who owned the land that [the turbines] were put on because [the developer] had to lease that land." Finally, one participant stated, "It creates jobs. A job in the green industry is a good thing."

Sub-theme: Electricity. Participants discussed many facets of electricity, including where it goes and who should benefit from it. Largely, participants agreed that the local area should benefit in some way. One stated, "If our county has a wind farm, then our county should get the energy." One participant stated, "The City of Greensburg has first dibs [on the electricity], so that we are in effect purchasing electricity from the wind farm, but it's not exactly those electrons." In response to this comment, one affirmed by stating, "[The city administrator explained it as] you take your wheat to the elevator and it blends in, and when they sell it, they don't sell your grains of wheat, they sell the bushels." One participant stated, "I know there's excess power, enough power for 4,000 homes here, and we have fewer than 300 homes, so other communities can benefit from this power." However, one participant expressed concern about the level at which Greensburg benefits from the electricity stating, "I kind of thought that in town, in Greensburg, we would benefit more from it. I thought electricity comes straight from there to our homes, but it goes somewhere else." Another stated, "It doesn't feel like the wind farm has made a difference or benefited us. We pay the same amount per kilowatt of energy as we did before the wind farm."

Sub-theme: Publicity. The City of Greensburg was believed to have received a significant amount of publicity as a result of the Greensburg Wind Farm. One participant stated, "There's been a lot of publicity about Greensburg and people love to photograph the wind farm, which attracts more people and maybe people interested in having something like that in their community." Additionally, one stated, "I think it's one of many things that people come from around the world to see." One participant stated, "I think it's been great from a PR standpoint for the city to have the project."

The Greensburg Wind Farm was viewed as highly beneficial for the community. Participants concluded that the wind farm provided a boost to the city's economy. Additionally, the wind farm led to an increase in publicity for the community. There was some confusion as to who was benefiting from the electricity; however, all participants agreed that the local area should benefit in some way. The fifth major theme that emerged from the focus groups was the importance of selecting appropriate locations for wind farms.

Location. Participants asserted that appropriate location is critical to the successful of a wind farm. One participant offered, "Don't go to an area that there are negative feelings. There are many communities in the country that would gladly accept wind power. There are many people just like us that would be all for it." Another participant stated, "Avoid places that don't have wind." Additionally, one participant stated, "[Developers should avoid] the destruction of farms, the ground, cattle, and all that good stuff." Participants concluded that areas where people are supportive of wind energy are appropriate if the area has wind and doesn't negatively affect the environment. The sixth major theme that emerged from the focus groups was the importance of education in wind energy decision-making.

Education. Participants viewed education as critical to the development of the Greensburg Wind Farm, as well as to the development of wind energy projects in general. For the Greensburg Wind Farm, in particular, one participant stated, "It would be cool for [Greensburg] to learn [more about how wind energy works] since we're all kind of ambassadors of Greensburg." For wind energy development in general, one participant asserted, "There should be more education about wind energy and how you can get into the field of working on wind energy and generators." Additionally, one stated, "I think it would be nice for whoever is developing [a project to] explain how wind power works because a lot of us don't know how

wind energy works." Participants concluded that education was essential to the development of the Greensburg Wind Farm and wind energy decision-making in general.

Focus group summary

Community members concluded the development of the Greensburg Wind Farm supported the city's "green" rebuilding plan. The value of trusting developers is critical to negotiating fair landowner leases and ensuring good relations between communities and developers. Additionally, during the Greensburg Wind Farm decision-making process, community members placed a lot of trust in elected officials to make appropriate decisions for the community. The majority of Greensburg community members gained their information through word of mouth. There were some discrepancies in opinions amongst the focus group participants about whether there was an appropriate amount of information available. Many participants viewed that any information regarding the Greensburg Wind Farm was none of their business and appropriate only for private entities involved in the project decision-making. The Greensburg Wind Farm was viewed as highly beneficial for the community. Participants concluded that the wind farm provided a boost to the city's economy. Additionally, the wind farm led to an increase in visibility for the community. There was some confusion as to who was benefiting from the electricity; however, all participants agreed that the local area should benefit in some way. Participants concluded that areas where people are supportive of wind energy are appropriate if the area has wind and doesn't negatively affect the environment. Participants concluded that education was essential to the development of the Greensburg Wind Farm and wind energy decision-making in general.

Kiowa County synthesis

Within Kiowa County, four themes emerged as critical to key informants and focus group participants with regard to the Greensburg Wind Farm: commitment to Greensburg's plan to rebuild "green," leadership, community benefit and education.

Commitment to Greensburg's plan to rebuild "green." Participants of both the interviews and focus groups viewed the Greensburg Wind Farm as a result of and complimentary to the city's plan to rebuild "green." One focus group participant asserted, "[The Greensburg Wind Farm is] consistent with the green rebuilding; it's just part of that piece, another piece of the puzzle." Additionally, one key informant stated, [the decision to develop wind energy] validates and supports the direction Greensburg has taken to try and be a green community." Community members concluded the development of the Greensburg Wind Farm supported the city's "green" rebuilding plan and validates its "green" image. The second major theme that emerged from key informant interviews and focus groups was the importance of leadership in elected officials to make decisions on behalf of the Kiowa County citizens.

Leadership. Participants asserted that decision-makers, mainly elected officials, showed a great deal of leadership, and citizens placed a lot of trust in those leaders. One key informant stated that "courageous leadership" and "taking a risk and doing things differently than they'd done before" was critical to making the wind farm happen. Furthermore, one focus group participant stated, "God put [elected officials] in those positions to make decisions before the tornado and we had confidence in those people [to make the decision about the wind farm]." According to participants, Greensburg elected officials showed a great deal of leadership in wind energy decision-making. Additionally, community members trusted those elected officials to make appropriate decisions on their behalf. The third major theme that emerged from key

informant interviews and focus groups was the benefits associated with the Greensburg Wind Farm.

Community benefit. Participants concluded that there were many positive benefits associated with the Greensburg Wind Farm. One key informant stated, "[The Greensburg Wind Farm] has brought additional income to landowners, and brings dollars into our community." Additionally, one focus group participant asserted, "It creates jobs. A job in the green industry is a good thing." In addition to boosting the economy, participants in both KIIs and focus groups believe that the Greensburg Wind Farm provides affordable "green" electricity to the city. A key informant stated, "Greensburg right now is pretty well set. For ten years or better, there is a nice piece of wind energy pie for Greensburg, as far as [electric] rates are concerned." A focus group participant stated, "The City of Greensburg has first dibs [on the electricity] so that we are in effect purchasing electricity from the wind farm, but it's not exactly those electrons." The majority of participants concluded that community positively benefitted from the Greenburg Wind Farm. The fourth major theme that emerged from the key informant interviews and focus groups was the importance of education in wind energy decision-making.

Education: Participants viewed education as essential to the wind energy decision-making process. One focus group participant asserted, "I think it would be nice for whoever is developing [a project to] explain how wind power works because a lot of us don't know how wind energy works." Additionally, one key informant stated, "[Citizens should] continue to study and watch and learn about [wind energy projects]. The learning part is crucial." Education is viewed as essential to wind energy decision-making and the majority of participants concluded that the community needs to increase their knowledge of wind energy.

Kiowa County synthesis summary

Community members viewed the Greensburg Wind Farm as a result of and complementary to the city's plan to rebuild "green." Also, community members trusted elected officials to make appropriate decisions on their behalf and elected officials showed a great deal of leadership. The Greensburg Wind Farm is viewed positively by community members due to their perception that the wind farm benefits the community. In general, community members viewed education as an essential aspect of wind energy decision-making but asserted that community members should increase their knowledge of wind energy.

Wabaunsee County

Key informant interviews

Descriptive summary of participants

Ten key individuals were interviewed that were perceived to have direct involvement in the decision-making process for the Munkers Creek Wind Farm. Key informant interview participants included community leaders, lawyers, landowners and county residents. Seventy percent of the participants were male (M: n=7; 70%; F: n=3; 30%). All participants described themselves as white/caucasian. The participants ranged in age from 28 to 75 (M=54.2). Approximately 60 percent of the participants had a bachelor's degree and/or graduate degree.

Thematic analysis

Six major themes emerged as critical to community members with respect to Wabaunsee County's decision to ban industrial wind energy projects: external interest in protecting visual landscape, industrial wind ban threatening economic development, community polarization, property rights, local political process, information and organization.

External interest in protecting visual landscape. Participants indicated that individuals who lived outside the county but had property in Wabaunsee County were opposed to wind energy development because it would negatively affect their visual landscape. One participant stated, "[The people] opposed [to the wind farm] tended to be folks who had purchased land more recently, lived and worked elsewhere, and wanted the scenic viewshed protected." Another participant asserted, "A lot of emotional folks who testified at hearings owned land, but lived and worked elsewhere. [They were] wealthy landowners who moved out there to have a beautiful scene in their weekend homes and didn't want wind to disturb that." Additionally, one stated, "We had a number of people who were landowners that lived in Topeka, Lawrence, or Kansas City, for the most part, affluent people…they came to Wabaunsee County on the weekends and felt it was important to not have wind turbines obstruct their view of the pristine pasture land…ultimately, they were the ones responsible for getting the ban put into place." Another participant asserted, "There was a lot of outside people against it, thought it was going to destroy the Flint Hills." Participants concluded that opposition to the degradation of viewscape was mainly held by external actors. Additionally, the external actors played a role in the ban of industrial wind development in Wabaunsee County. The second major theme that emerged from key informant interviews was the threat to economic development posed by the industrial wind energy ban.

Industrial wind energy ban threatening economic development. Participants viewed the industrial wind energy ban as a threat to potential economic development within Wabaunsee County. One participant stated, "[The development] would have helped the landowners. And during construction there would be opportunities for workers and for greater tax revenue. The company was going to give money to the county…I don't think that was ever considered by

many in Wabaunsee County." Another participant stated, "I think [wind energy development] was an extremely good idea…Wabaunsee is one of the poorest counties in the state. We have no valuation in this county." One participant stated, "I figured the community would benefit…because of the extra money that would come into the area." One participant stated, "[the decision to restrict wind power hurt Wabaunsee County] from an economic development perspective… [The county] won't have [an] opportunity for landowners to get lease payments, or developers to offer operation and maintenance jobs, also construction jobs. Participants viewed the ban on industrial wind development as a threat to local economic development. The third major theme is the polarization of the community as a result of the wind energy decision-making.

Community polarization. Participants concluded that wind energy decision-making in Wabaunsee County divided the community. One participant stated, "[the Munkers Creek Project] was a divisive issue, causing one neighbor to pit against another, and a community to divide." Additionally, one stated, "the controversy [around the Munkers Creek Project] hurt [the] county, a lot of neighbors against neighbors. [It] created a lot of angst amongst people." One participant stated, "[the project] really drove a wedge between some people…" Another participant stated, "[the decision to restrict wind power] created a few wounds and a divide in the community." Participants also believed that some landowners viewed the prospect of wind development created a "haves or have-nots" mentality. One sub-theme emerged within the context of community polarization: haves and have-nots.

Sub-theme: Haves and have-nots. Participants discussed the prevalence of the "haves and have-nots" attitude within the county. One participant asserted, "There were a few folk [against the project], neighbors, for instance, to the people that were going to get the wind turbines, which you could kind of see that "haves and the have-nots"…there were a number of people that were

going to have them and reap the benefits of them, and there were some other folks that maybe lived across the road or down…that would not have them, and there was some opposition from a few of them because they knew they were going to have to look at them but they didn't get any money out of them like their neighbor did…" Another participant stated, "[Two locals near the proposed wind farm site] didn't want to see [wind turbines], and as I visited with both of them, it was easy to find out that it was basically just a jealousy thing. They made the comment that they didn't think [one of the landowners] needed to get any more money than what he already had." One participant asserted, "…there was a lot of grief or jealousy…some were going to get a windmill and others were not."

Participants concluded that wind energy decision-making in Wabaunsee County divided the community. Also, participants believed that some landowners viewed that the prospect of wind development created a "haves or have-nots" mentality. The fourth major theme that emerged from the key informant interviews was the issue of property rights.

Property rights. Participants recognized the importance of property rights. On one level, supporters of the project felt like their property rights were being taken away when the county decided to ban industrial wind energy. One participant stated, "Landowners…decided to sue [because] their ability to make money on their own land was taken away…." Another participant stated:

> …the landowners who stated that they had leased their land to developers brought a suit in the district court of Wabaunsee County, claiming the actions of the commissioners [to ban industrial wind energy] were unreasonable and unconstitutional. And the district court ruled …that the commissioners, procedurally, acted correctly, and the decision to inhibit industrial wind turbines was reasonable.

On another level, landowners opposed to industrial wind energy development in the county believed their property rights were being eliminated if their neighbor had a wind farm. One participant stated, "At Munkers Creek, once [the developers] went in and developed some leases, the neighbors got upset because they didn't want their land impacted… if you put…an industrial wind complex…next to a property that has an environmental and landscape value, you decrease the value of that neighboring property." Another participant asserted, "[The decision to restrict wind power in Wabaunsee County] prevented the destruction of property values for those properties that would not have had turbines on them. It prevented the destruction of the enjoyment of life of those people that would live within the viewshed of the wind turbines." Participants, either opposed to or supportive of the decision to ban industrial wind development in Wabaunsee County, recognized the importance of property rights in wind energy decision-making. The fifth major theme that emerged from key informant interviews was the political process the county went through to decide how to deal with wind energy development in the county.

Local political process. Participants discussed the political process utilized to decide whether to regulate or ban industrial wind energy development in Wabaunsee County. Three sub-themes emerged: The moratorium provided time to consider wind energy regulations, questions of competence of county commissioners and ban complemented county's comprehensive plan.

Sub-theme: Moratorium provided time to consider wind energy regulations. Participants viewed that the decision to place a moratorium on wind energy development allowed the County time to consider wind energy regulations. One participant stated, "[Wabaunsee] County is zoned but had no wind tower regulation…the county… placed a moratorium (on all wind projects) until

planning board activities regarding zoning were complete." Another participant asserted, "The zoning administrator recommended that the county commission place a moratorium on any application with regards to any activity regarding wind turbines. With the moratorium in place, the county enacted a process to study what regulations it should enact regarding wind turbines." Additionally, one stated, "There were no regulations in [Wabaunsee] County for wind farms… so the county put on a moratorium [against industrial wind energy projects] until they could figure out what to do…the moratorium was originally set for 90 days in November 2002 to study [the issues]…By mid-2003, regulations were proposed.

Sub-theme: Questions of competence of county commissioners. Participants who were supporters of the wind energy development in Wabaunsee viewed the incompetence of one county commissioner as a critical aspect of the decision to ban industrial wind energy in the county. One participant stated, "[I] asked [the commissioner] what he had voted on to which he replied, „wind turbines, right?' Next, [the commissioner] was asked, „to allow them or ban them?'After looking at his wife, whom was shaking her head no, [the commissioner] replied, „no' and hung his head." Another participant asserted, "One member of the county board was not competent to make a decision at that time [alleged early stages of Alzheimer's]." Additionally, one stated, "…there was a commissioner suffering from early stages of Alzheimer's which [those opposed to development] were able to influence.

Sub-theme: Ban complemented county's comprehensive plan. Participants who opposed wind energy development in Wabaunsee viewed the ban on industrial wind development as complementary to the county's comprehensive plan. One participant stated, "…the county comprehensive plan… [Outlined what residents] wanted [Wabaunsee County] to be and to remain a predominantly agricultural county and community. They wanted the vistas; they wanted

the agricultural land; they wanted the small-town atmosphere. They did not want [the county] to become developed. So [the Wabaunsee County Commission] commissioned a planning committee to determine what rules and regulations should we have to maintain what the county comprehensive plan has in it…the more they looked at that, the more input they got from the county residents…saying, „Now wait a minute, why do we have to decide on set-backs and height? We don't want 'em. We simply don't want 'em." Another participant stated, "The [Munkers Creek Project] could not have violated in any greater degree the goals and objectives of the comprehensive plan that the county had in place. You could not have designed something that would be more offensive to the comprehensive plan than an industrial wind turbine complex."

Participants viewed that the decision to place a moratorium on wind energy development allowed the county time to consider wind energy regulations. Participants who were supporters of the wind energy development in Wabaunsee County viewed the incompetence of one county commissioner as a critical aspect of the decision to ban industrial wind energy in the county. Participants who opposed wind energy development in Wabaunsee County viewed the ban of industrial wind development as complementary to the county's comprehensive plan. The sixth major theme that emerged from key informant interviews was the importance of information in wind-energy decision-making.

Information. Participants viewed information as critical to wind energy decision-making. Two sub-themes emerged within the context of information: misinformation and source credibility.

Subtheme: Misinformation. Participants discussed the abundance of misinformation provided by supporters and opponents of the project. Some participants viewed the information

presented by the opposition as misleading. One participant stated, "[There were] all sorts of inaccurate claims…a lot of misunderstanding and misinformation [provided by the opposition]." Another participant asserted, "[The opposition] told a lot of mistruths…false information got out there, and people were scared of that." Some participants viewed the information provided by the developer was deceiving. One participant stated, "The developers do not always outright lie; they use omission…it's not the whole truth." The same participant asserted, "[At the developer public meetings, there were] a lot of promises, a lot of PR that this is all about saving the environment, this is all about making the leaseholders a substantial income… [And] reducing the dependence on foreign oil…which if you know anything about electricity and foreign oil, foreign oil is used for less than 3% of electricity generation nationwide and less than 1% in Kansas…"

Sub-theme: Source credibility. Participants also spoke to the credibility of sources. One participant stated, "I would try to provide information, [but] it was discredited because I was from the company trying to build a project." Another participant stated, "[Wind opposition] presented very carefully researched facts because we felt, if we just went with the blow-and-go [the developers] went with, then we would be discredited."

Participants concluded that there was an abundance of misinformation provided by supporters and opponents of the project. Also, participants discussed the likelihood to be discredited by the opposing side with regard to providing information. The seventh major theme that emerged from key informant interviews was organization.

Organization. Participants viewed organization as critical with regard to effectively supporting or opposing wind energy development. Two-subthemes emerged within the context of organization: organization of wind energy supporters and organization of wind energy opposition.

Sub-theme: Organization of wind energy supporters. Participants concluded that the supporters of wind energy development in Wabaunsee County were only minimally organized. One participant stated, "Other than the group of people that were going to have wind turbines on their property, there was no other organized group [for the project]…the conversation I had with most people was…they didn't care, so I guess they didn't care enough to get organized to push for [the project]. Also…I was a little surprised that the wind turbine company didn't try to organize something." Another participant asserted, "…it felt like [the supporters] were outnumbered by the opposition...I felt like the lone voice [for the supporters] in most of the meetings and activities engaged in wind in Kansas overall." One participant stated, "…I feel like this wind power company…possibly had some opportunities or they could have taken some opportunities to get out and do a little more marketing on [the project]." Another participant stated, "…we [supporters] didn't believe we had to get that organized to do the right thing, so we sat on our bench in the courtroom and watched them walk all over us."

Sub-theme: Organization of wind energy opposition. Participants concluded that those who opposed the project effectively organized against the development of industrial wind energy in Wabaunsee County. One participant stated, "There were several public meetings that mostly the folks that were opposed [to the project] sponsored." Another participant stated, "The work of the Tallgrass Rancher group, [which opposed the project, was a critical point in the process that influenced the final decision]. [They] pulled in a few of the local people…" Another participant asserted, "… [those who were against the project] got organized in a big way…" Additionally, one stated, "…they were organized and did a lot of talking…" Another participant stated, "Ultimately, the hard work of the group that was in opposition brought about the [ban]."

Organization was believed to be an essential part of effectively supporting or opposing wind energy development. Participants viewed that the supporters of the project had limited organization and the opposition effectively organized against wind energy development in the county.

Key informant interview summary

Participants indicated that individuals who lived outside the county, but had property in Wabaunsee County were opposed to wind energy development because it would negatively affect their visual landscape. The industrial wind energy ban was viewed as a threat to potential economic development in Wabaunsee County. Also, participants concluded that wind energy decision-making in Wabaunsee County divided the community. Participants, either opposed to or supportive of the decision to ban industrial wind development in Wabaunsee County, recognized the importance of property rights in wind energy decision-making. An abundance of misinformation was viewed to be provided by supporters and opponents of the project. Also, participants discussed the likelihood to be discredited by the opposing side with regard to providing information. Participants believed that the supporters of the project had limited organization and the opposition effectively organized against wind energy development in the county.

Focus groups

Descriptive summary of participants

Three focus groups were conducted in Wabaunsee County. Focus groups involved 31 county residents. More than half of the participants were male (M: n=18; 58%; F: n=13; 42%). All participants described themselves as white/caucasian, except for one participant who

identified themselves as Native American. The participants ranged in age from 48 to 82 (M=58.6). Approximately half of the participants had a high school diploma. More than one-third of the participants had a bachelor's degree and/or a graduate degree.

Thematic analysis

Six themes emerged as critical to community members with respect to the Munkers Creek Wind Farm: location, local benefit, community division, information quality, public debate process and community engagement.

Location. Participants concluded that selecting an appropriate location is critical to wind energy development. One participant stated that "there are places that you can put [wind farms] and places that you can't." One sub-theme emerged within the context of location: development in the Flint Hills.

Sub-theme: Development within the Flint Hills. Participants discussed the importance of developing outside of the Flint Hills. One participant asserted, "We're proud of the Flint Hills, and I don't think they should put [wind farms] where the Flint Hills are at. Especially in the central part of Kansas. Maybe to the east or west, but not in the Flint Hills, we're real proud of the Flint Hills and our bluegrass country." Another participant stated, "…In western Kansas, [wind farms] are welcome. So it seems to me [that it is] kind of obvious that they are not welcome [in Wabaunsee County] or anywhere in the Flint Hills." Also, one stated, "If [the developer would have] done their research, they would have known [the Flint Hills] wasn't an appropriate place [to develop]…"

Participants concluded that selecting an appropriate location is critical to wind energy development. Additionally, participants viewed the Flint Hills as an inappropriate place for wind

energy development. The second major theme that emerged from focus groups was local stakeholder benefit through wind energy development.

Local benefit. Participants concluded that the local community should benefit from the wind farm, first and foremost. One participant stated, "Energy is going elsewhere, why give up our beautiful scenery and [our community is] not benefitting." Another participant asserted, "[Wind farms should] benefit our community first, sell the surplus to other states." Some participants discussed the local benefits associated with the Munkers Creek Wind Farm. One stated, "…in the Munkers Creek project, none of the [energy] was for Kansas. That's not fair. Even in Western Kansas, Kansans should benefit first, send the surplus off." One sub-theme emerged within the context of local benefit: public vs. private benefit.

Sub-theme: Public vs. private benefit. Participants viewed that public benefit should be considered along with private benefits associated with developing wind farms. One participant asserted, "The whole county [should benefit]. The public should benefit. If the public is going to subsidize, then they should benefit." Participants also spoke to the Munkers Creek Wind Farm in particular with regard to public and private benefit. One participant stated, "…there are no public benefits, whatsoever. There were private benefits [associated with the Munkers Creek project], but no public benefits." Another participant stated, "…there was a very long list of detriments for the public. There were no public benefits whatsoever. There were private benefits, but no public benefits."

Participants concluded that the local community should benefit from the wind farm, first and foremost. Additionally, public benefits should be considered along with private benefits in wind energy decision-making. The third major theme that emerged from the focus groups was

the effect of the Munkers Creek Wind Farm decision-making process on community relationships, specifically the creation of community division.

Community division. Participants concluded that the Munkers Creek Wind Farm decision-making process divided the community and damaged relationships among community members. One participant stated, "…we've pitted neighbor against neighbor. Some of it is, „if I can't have it, I don't want you to have it,' and some are just angry cantankerous neighbors that don't want anybody to benefit near them if they can't." Another participant stated, "… [The ban] created a lot of hard feelings between the two sides … fighting neighbors." One stated, "A lot of tension was created between neighbors [because of the ban]." One participant asserted, "The process did create a negative impact. It certainly created some hard feelings between neighbors…." The divide between community members was viewed by participants as a result of the decision-making process of the Munkers Creek Wind Farm. The fourth major theme that emerged from focus groups was the importance of information to wind energy decision-making.

Information quality. Participants identified that there was a lack of quality information available during the Munkers Creek Wind Farm decision-making process. One participant stated, "…It might not have been a particularly high quality, but there was lots of information." Another participant asserted, "[Information] was not credible [from] the energy companies. [The developer] would do a lot of platitude talk. Patriotic stuff. This was bad information. They used cheap patriotism where everyone is supposed to come together… they literally said putting up wind towers would bring home the soldiers from overseas." One participant stated, "One thing [the opposition] said [was the wind farm] would devalue the land. The state of Kansas found there was no devaluation of land due to the wind turbines, but they use that same devaluation argument." One participant stated, "…the ban did bring more information to the public by

stirring up controversy, brought about good and bad information." Participants concluded that there was information available during the Munkers Creek decision-making process, but it was not always accurate or trustworthy. The fifth major theme that emerged from focus groups was the efficiency of the public debate process.

Public debate process. The public debate process was viewed as an essential facet of wind energy decision-making. Some participants believed the process facilitated decision-making. One participant stated, "The [public debate] process worked well…it took a long time, but… [I] thought the community process worked." Another participant asserted, "[People] sure had their chance [to participate in decision-making]…though they limited the speaking time at meetings to three minutes, everyone had a chance to speak. And they spoke more than once. No one [was] cut out of the process by any means…" Some participants believed that the process was flawed. One participant stated, "Most of the problem lied with the fact that people only got three to five minutes of speech, and the larger group got more time to say this stuff. [The opposition] would give their three minutes to the lawyer and pile [the time] up; he'd run out of stuff to say and read Shakespeare." Another participant, when discussing the public debate process, asserted, "If they had restricted [participation] to residents and those who had contracts, it might have been a different batch of people." Although participants' opinions differed, the public debate process was considered an essential part of the decision-making around the Munkers Creek Wind Farm. The sixth major theme that emerged from focus groups was the importance of community engagement in wind energy decision-making.

Community engagement. Participants concluded that the developer should engage the community in wind energy decision-making. One participant stated, "[I] didn't know the [Munkers Creek] project existed until they wanted to sign [landowners] up for it. I understand a

certain amount of secrecy…but I think that [the developers] should have had more meetings to explain to the local people [all of the benefits]. I just think they should have…as they developed the project, developed the community to embrace the project." One participant asserted, "[The developer] didn't do a good enough job explaining this [to the community]. They just held an open forum and people were giving their opinions about nothing at all." One participant stated, "[Developers should] make their intentions known rather than sneak in during the dark of night." Another participant offered, "Early action [by the developer] could have shaped things differently... the fact that they didn't plan it out made a difference. [The opposition] got out in front of it so the neutral people were influenced." Participants believed developers have the responsibility of engaging community members in wind energy decision-making.

Focus group summary

Focus group participants viewed appropriate location selection as critical to wind energy development. The Flint Hills was considered to be an inappropriate place for wind energy development. Additionally, participants concluded that the local community, both public and private sectors, should benefit from a wind farm. The Munkers Creek decision-making process was believed to be the catalyst for breaking community relationships and causing community division. Participants concluded that there was information available during the decision-making process, but it was not always accurate or trustworthy. The public debate process was considered an essential part of the decision-making around the Munkers Creek Wind Farm. Participants also believed developers have the responsibility of engaging community members in wind energy decision-making.

Wabaunsee County synthesis

Four themes emerged as critical to both key informants and focus group participants: property rights, community division, quality information and organization.

Property rights. Both key informants and focus group participants recognized the importance of property rights to the wind energy debate in Wabaunsee County. One focus group participant stated, "[The Munkers Creek project] did raise the perennial question of private property rights. It forced the issue at the community value vs. private property rights." Some key informants concluded that on one level, supporters of the project felt like their property rights were being taken away when the county decided to ban industrial wind energy. One participant stated, "Landowners…decided to sue [because] their ability to make money on their own land was taken away…." On another level, participants concluded that landowners opposed to industrial wind energy development in the county believed their property rights were being eliminated if their neighbor had a wind farm. One participant stated, "At Munkers Creek, once [the developers] went in and developed some leases, the neighbors got upset because they didn't want their land impacted… if you put…an industrial wind complex…next to a property that has an environmental and landscape value, you decrease the value of that neighboring property." Participants across key informant interviews and focus groups discussed the property rights argument that was present in wind energy decision-making around the Munkers Creek Wind Farm. The second major theme that emerged from key informant interviews and focus groups was effect of the wind energy decision-making process on community relationships in Wabaunsee County.

Community division. Key informants and focus group participants concluded that the wind energy decision-making process in Wabaunsee County created a divided community with

damaged relationships among community members. One key informant asserted, "[the Munkers Creek Project] was a divisive issue, causing one neighbor to pit against another, and a community to divide." Another key informant stated, "[the decision to restrict wind power] created a few wounds and a divide in the community." A focus group participant stated, "… [The ban] created a lot of hard feelings between the two sides … fighting neighbors." Another focus group participant asserted, "The process did create a negative impact. It certainly created some hard feelings between neighbors…" The divide between community members was viewed by key informants and focus group participants as a result of the decision-making process and ultimate ban of industrial wind energy within Wabaunsee County. The third major theme that emerged from key informant interviews and focus groups was the quality of information provided during the decision-making process.

Quality information. The quality of information provided during the decision-making process was critical to both key informants and focus group participants. Some participants viewed information by the opposition as inferior. One key informant stated, "[There were] all sorts of inaccurate claims…a lot of misunderstanding and misinformation [provided by the opposition]." One focus group participant stated, "One thing [the opposition] said [was the wind farm] would devalue the land. The state of Kansas found there was no devaluation of land due to the wind turbines, but they use that same devaluation argument." Some participants viewed information by the developer as substandard. One focus group participant stated, "[Information] was not credible [from] the energy companies. [The developer] would do a lot of platitude talk. Patriotic stuff. This was bad information. They used cheap patriotism where everyone is supposed to come together… they literally said putting up wind towers would bring home the soldiers from overseas." A key informant asserted, "The developers do not always outright lie,

they use omission…it's not the whole truth." Both key informants and focus group participants concluded that information provided during the decision-making process was substandard. The fourth theme that emerged as critical to key informant interviews and focus groups was the importance of organization in wind energy decision-making.

Organization. Both key informants and focus group participants viewed organization as critical with regard to effectively supporting or opposing wind energy development. Two-subthemes emerged within the context of organization: organization of wind energy supporters and organization of wind energy opposition.

Sub-theme: Organization of wind energy supporters. Participants concluded that the supporters of wind energy development in Wabaunsee County were only minimally organized. One key informant stated, "Other than the group of people that were going to have wind turbines on their property, there was no other organized group [for the project]…the conversation I had with most people was…they didn't care, so I guess they didn't care enough to get organized to push for [the project]. Also…I was a little surprised that the wind turbine company didn't try to organize something." One focus group participant stated, "[I] didn't know the [Munkers Creek] project existed until they wanted to sign [landowners] up for it. I understand a certain amount of secrecy…but I think that [the developers] should have had more meetings to explain to the local people [all of the benefits]. I just think they should have…as they developed the project, developed the community to embrace the project." Another key informant asserted, "…we [supporters] didn't believe we had to get that organized to do the right thing, so we sat on our bench in the courtroom and watched them walk all over us."

Sub-theme: Organization of wind energy opposition. Participants concluded that those who opposed the project effectively organized against the development of industrial wind energy in Wabaunsee County. One key informant stated, "There were several public meetings that mostly the folks that were opposed [to the project] sponsored." Another key informant asserted, "… [those who were against the project] got organized in a big way…"

Organization was believed to be an essential part of effectively supporting or opposing wind energy development.

Wabaunsee County synthesis summary

Participants across key informant interviews and focus groups discussed the property rights argument that was presented in wind energy decision-making around the Munkers Creek Wind Farm. The divide between community members was viewed by key informants and focus group participants as a result of the decision-making process and ultimate ban of industrial wind energy within Wabaunsee County. Both key informants and focus group participants concluded that information provided during the decision-making process was substandard. Additionally, organization was believed to be an essential part of effectively supporting or opposing wind energy development.

Cross-county synthesis

Five themes emerged as critical to community members across counties with respect to Kansas wind energy decision-making: location, economic development, community engagement, effect of wind energy decision-making on community member relationships and education.

Location. Participants across counties indicated that location was critical in wind energy decision-making. One participant stated, "In general, I think development of wind energy is a

good thing. I don't know that it is appropriate for every site." Another participant stated, "[Developers should] go to an area where there is good wind, there is disturbed soil and where people want it." One asserted, "Don't go to an area that there are negative feelings. There are many communities in the country that would gladly accept wind power. There are many people just like us that would gladly accept wind power…" Additionally, one participant stated that "there are places that you can put [wind farms] and places that you can't." While this general theme was articulated across counties and modes of data collection, three sub-themes emerged, two that were relevant to Butler and Wabaunsee counties specifically: wind energy development within the Flint Hills region and visual landscape; and one that was relevant to Kiowa County: wind energy development enhances community image.

Sub-theme: Wind energy development in the Flint Hills region. Participants in Butler and Wabaunsee counties discussed wind energy development within the Flint Hills region of Kansas. The majority of participants concluded that wind energy development in the Flint Hills region should be avoided. One participant stated, "I think wind energy is a good idea as long as we put it in the right locations. There are some locations that should not allow wind energy to go in: the rim of the Grand Canyon, Puget Sound, Yellowstone National Park and the Flint Hills of Kansas." Another participant stated, "I believe wind energy is a good thing, but in the right places…I am not for anything in the Flint Hills. Western Kansas would be a way better place for [wind farms]." One participant stated, "We're proud of the Flint Hills and I don't think they should put [wind farms] where the Flint Hills are at. Especially in the central part of Kansas. Maybe to the east or west, but not in the Flint Hills, we're real proud of the Flint Hills and our bluegrass country." On the other hand, some participants determined that the wind energy development in the Flint Hills was acceptable. One participant stated, "The Flint Hills already

had power lines, cell phone towers, transmission lines and oil production equipment. [The argument was:] should we commercialize or industrialize the Flint Hills? My argument is the Flint Hills are already industrialized."

Sub-theme: Visual landscape. Participants from Butler and Wabaunsee counties expressed concern about the impact of wind energy development on the visual landscape. The majority of participants held the opinion that wind farms have a negative impact on the visual landscape. One stated, "I wasn't in favor of [the Elk River Wind Farm] because it would destroy the visual landscape…" Another participant concluded, "I also didn't want [the wind farm] obstructing the view and visual landscape." One participant asserted, "[There are] red blinking lights, the view isn't what it used to be. Now, I walk out on my back porch, and it's red blinking lights all over the sky." One participant asserted, "…wealthy landowners who moved out [to Wabaunsee County] to have a beautiful scene in their weekend homes and didn't want wind to disturb that." Another participant concluded, "We had a number of people who… felt it was important to not have wind turbines obstruct their view of the pristine pasture land…"

Sub-theme: Wind energy development enhances community image. Participants in Kiowa County viewed the city of Greensburg as a good location for wind energy development because it boosted their image as a "green" community. One participant stated, "[the wind farm] has brought media attention to the sustainable efforts of the community." Additionally, one concluded that the wind farm "is going to put Greensburg on the map." Another participant stated, "I think [the wind farm] has been great from a PR standpoint for the city to have the project. One participant concluded, "If we are going to be seen as a green community, that's a big statement to make. At times, I get sad driving into town, [but] seeing the windmills is kind of exciting; it makes you feel like you're making progress in the green movement…." Another

participant stated, "Greensburg is known as being the new energy-efficient town, and having the wind farm helps add to their credibility of being an energy-efficient community."

Appropriate location was viewed as an essential part of wind energy decision-making. The second major theme that emerged from key informant interviews and focus groups across counties was the economic development associated with wind energy development.

Economic development. Participants across counties viewed economic development as critical to wind energy decision-making. On one level, participants discussed the economic impact of wind energy development on the county; on another, they discussed the economic impact on the individual. Two sub-themes emerged within the context of economic development: county-level impact and individual-level impact.

Sub-theme: County-level impact. Economic development on a county-level was critical to participants across counties. Some participants believed wind energy development was economically beneficial to their county. One stated, "[Butler County] receives some benefit in that the [developer] gives a gift to the county of $150,000 a year for 10 years for the county to use however it sees fit." One asserted, "… [The Greensburg Wind Farm] brings dollars into our community." Another participant concluded, "I think [wind energy development] was an extremely good idea…Wabaunsee is one of the poorest counties in the state. We have no valuation in the county." On the other hand, some participants believed wind energy development was insufficient at the county-level. One participant stated, "…there are no public benefits, whatsoever. There were private benefits [associated with the Munkers Creek project], but no public benefits." One participant concluded, "[Butler] County residents get nothing."

Another aspect of economic development that participants emphasized was that the "public" or county as a whole should benefit economically from wind energy development. One

participant stated, “The whole county [should benefit]. The public should benefit. If the public is going to subsidize [wind energy], then they should benefit.”

Sub-theme: Individual-level impact. Economic development on an individual-level was critical to participants across counties. The majority of participants across counties believed wind energy development was economically beneficial to individuals within their county. One participant concluded, “... [The Elk River Wind Farm] has helped landowners; they have gotten/ an income off of the wind farm.” One participant stated, “[The Greensburg Wind Farm] helped out economically for the people who owned the land that [the turbines] were put on because [the developer] has to lease that land.” Another participant concluded, “[The Munkers Creek Wind Farm] would have helped the landowners…”

Economic development on a county and individual level was viewed as vital to wind energy decision-making. The third major theme that emerged from key informant interviews and focus groups across counties was the importance of community engagement.

Community engagement. Participants across counties discussed the importance of community engagement in wind energy decision-making. Participants viewed community engagement on a continuum between consultative and non-consultative. On one hand, community members saw themselves as involved in decision-making. At the midpoint, community members saw themselves as adequately informed. On the other end of the continuum, community members viewed decisions as made without adequate consultation with community members. Two sub-themes emerged within the context of community engagement: consultative and non-consultative.

Sub-theme: Consultative. Participants across counties viewed consultation as essential to wind energy decision-making. One participant stated, "[Greensburg] citizens had a tremendous amount of feedback. They were putting in input from day one." Another participant stated, "[People] sure had their chance [to participate in decision-making]…No one was cut out of the process by any means…" One participant asserted, "All residents of Kiowa County and Greensburg, and the partners involved were key to making [the wind farm] work…" Some participants believed that public hearings facilitated consultative community engagement. One participant stated, "[Butler County] had probably a half a dozen hearings/meetings over at the county courthouse. We had so many people that wanted to participate that we had to move the meetings to evenings so people could come after work."

Sub-theme: Non-consultative. Participants across counties concluded that a lack of community consultation on wind energy decision-making was inappropriate. One participant stated, "[I] didn't know the [Munkers Creek] project existed until [the developer] wanted to sign [landowners] up for it. I understand a certain amount of secrecy…but I think that [the developers] should have had more meetings to explain to the local people [all of the benefits]. I just think they should have…developed the project [and] developed the community to embrace the project." Another participant stated, "Everyone in the county should have had input. It should have been put to a popular vote." One participant asserted, "County planning people were aware [of the project], but it was not made public…" One participant concluded that [developers should] make their intentions known rather than sneak in during the dark of night." Finally, a participant asserted, "…if the local people think a big company is trying to hoodwink them, they'll probably resist."

Community engagement in wind energy decision-making was believed to be critical. Some participants viewed community engagement as consultative; with community members actively involved in decision-making. Others believed that community engagement was non-consultative; with decisions made without adequate involvement of community members. The fifth major theme that emerged from key informant interviews and focus groups across counties was the importance of information to wind energy decision-making.

Effect of wind energy decision-making on community member relationships. Participants in Butler and Wabaunsee concluded that contentious debate over wind energy development divided the community and damaged relationships among community members. One participant asserted, "The controversy [around the Munkers Creek Project] hurt [the] county, a lot of neighbors against neighbors. [It] created a lot of angst among people." Another participant claimed, "[The Elk River Wind Farm] tore the community apart." Also, one participant stated, "Anytime you have controversy in a small town [it is] going to split your friendships [because] it hits a little close to home. The divisive debate over wind energy development within Butler and Wabaunsee counties was viewed as the cause of community division and damaged relationships within the community. The sixth major theme that emerged from key informant interviews and focus groups across counties was the importance of education to wind energy decision-making.

Education. Participants across counties viewed education as essential to wind energy decision-making process. Two sub-themes emerged within the context of education: self-education and public education.

Sub-theme: Self-education. Some participants discussed the importance of gathering information. One participant asserted, "Get educated as quickly as you can. Learn the truth. The

truth will motivate people to get organized in places where turbines are not appropriate." One participant concluded, "[County citizens should] become more educated about wind…To best argue your position, you need to be educated on both sides of it." Another participant stated, "[Citizens should] continue to study and watch and learn about [wind energy projects]. The learning part is crucial."

Sub-theme: Public education. Some participants discussed the importance of having experts educate the public, in a top-down manner. One participant asserted, "Somebody needs to educate the public. Instead of all these little groups running around fabricating stories…" Another participant stated, "[We had a lot of help from experts, like the Department of Energy and National Renewable Energy Laboratory (NREL) and they helped us evaluate our options." One participant concluded, "NREL…were really valuable in helping look at lots of green initiatives in Greensburg. [They] helped educate and [determine] feasibility for different projects." Another participant stated, "It would be cool for us to learn [about wind energy] since we're all kind of ambassadors of Greensburg." One participant stated, "I think it would be nice for whoever is developing [a project to] explain how wind power works…"

Education was believed to be an essential aspect of wind energy decision-making. Some participants discussed the importance of gathering information while others expressed the importance of active effort by experts (developers) to educate the public.

Cross-county synthesis summary

Appropriate location was viewed as an essential part of wind energy decision-making. Mainly, participants concluded that wind developers should avoid the Flint Hills region of Kansas. Economic development, on a county and individual level, was viewed as vital to wind

energy decision-making. Community engagement in wind energy decision-making was believed to be critical. Some participants viewed community engagement as consultative, with community members actively involved in decision-making. Others believed that there was inadequate community engagement, with decisions made without adequate community education or involvement. Divisive debate and lack of consultation and information were viewed as the cause of community division and damaged relationships. Additionally, education was believed to be an essential aspect of wind energy decision-making.

RQ2: What are the perceptions of critical stakeholders about the need for and appropriateness of engaging communities in Kansas wind energy project decision-making?

In seeking to answer RQ2, data acquired from key informant interviews (KIIs) conducted with 10 state-level decision-makers selected from three major categories: government officials (two KIIs), wind industry representatives (three KIIs) and wind advocacy group representatives (five KIIs) were analyzed.

Data were analyzed for emergent themes and sub-themes. Data were analyzed first within a stakeholder group, then across stakeholder groups to create a composite picture of the perceptions of state-level decision-makers regarding the need or appropriateness of engaging communities in Kansas wind energy project decision-making.

Government officials

Descriptive summary of participants

Two key informant interviews were conducted with government officials. Government official key informants included: a past Kansas Governor and an employee of the Kansas

Corporation Commission: Kansas Energy Office. Both participants were male and white/caucasian.

Thematic analysis

Five major themes emerged as critical to government officials with respect to Kansas wind energy decision-making: Sebelius/Parkinson administration propelled Kansas' wind power industry, statewide energy policy, wind potential, geographic location and multiple stakeholder collaboration.

Sebelius/Parkinson administration propelled Kansas' wind power industry. Governor Sebelius and then-Lieutenant Governor Parkinson were viewed as critical advocates for wind energy development in Kansas. Participants concluded that their attention to wind energy during their term led to an increase in development in Kansas. One participant stated, "Utility scale wind increased in Kansas due to…the attention/advocacy by the Sebelius/Parkinson administration." Another participant asserted, "[The Sebelius/Parkinson] administration convinced many parties to increase the state's wind energy industry without mandates, and it paid off…by the time [Parkinson was governor], we had tripled the amount of energy generated by wind." Participants concluded that encouragement by the Sebelius/Parkinson administration spearheaded the increase in wind energy development in Kansas. The second major theme that emerged from the key informant interviews was the importance of statewide energy policies to the increase in wind energy development.

Statewide energy policy. Participants concluded that state-level wind energy policy was critical to the increase in wind energy development within the state. One participant stated, "To maintain [increasing wind development, Kansas] needed significant legislation to establish a

statewide energy policy. So [the Parkinson administration] worked with the Kansas Legislature to develop comprehensive energy legislation that included a renewable energy standard and a net metering policy. We also passed additional legislation that helped provide financial incentives for wind equipment manufacturing projects." Additionally, another participant asserted, "Utility scale wind increased in Kansas due to…the potential for a national internalized carbon price and/or a national renewable energy standard." The increase of wind energy development in the past decade was viewed as a result of statewide energy policy. The third major theme that emerged from the key informant interviews was Kansas' rich wind resource.

Wind potential. Kansas' wind potential was viewed as critical to the role Kansas has and will have in increasing wind energy development. One participant stated, "Wind energy development in Kansas has been extremely beneficial to the state's economy by tapping into its natural resources…Kansas is the second-best state for wind energy potential." Additionally, one participant asserted, "Kansas has a strategic advantage of being located in a rich resource of wind potential." However, the same participant concluded that "having a robust wind resource in Kansas is not a reason to halt exploration and development of other energy strategies in the future." Participants recognized the importance of having a vast wind resource in playing a role in national wind energy development. The fourth major theme that emerged from key informant interviews was the importance of Kansas' geographic location to the transmission of electricity to larger demand areas.

Geographic location. Kansas' central location in the United States was viewed as critical to the transmission of electricity to coastal areas. One participant viewed this as a benefit, asserting: "The state's central geography places Kansas at an advantage for connecting renewable energy resources to other states around the country." On the other hand, one

participant viewed Kansas' central location as a weakness: "[Kansas]…has the disadvantage of being located a long distance from the bulk of energy consumption in the United States. Since the vast majority of electricity demand is located along the U.S. coastal region." Although participants disagreed on the value of being centrally located, participants concluded that Kansas' central location was critical to wind energy development. The fifth major theme that emerged from the key informant interviews was the importance of collaboration in wind energy decision-making.

Multiple stakeholder collaboration. Participants believed multiple stakeholder collaboration in wind energy decision-making was essential to sustainability of wind energy in Kansas. One participant stated, "What I found was that it is critical to bring everyone to the table… state government leaders, utilities, KCC, local communities and units of government and landowners… are needed to be involved in wind energy development. All of these parties cannot stand to benefit unless they work together." Another participant concluded, "There needs to be certainty that all private sector and public sector stakeholders are involved and agree on wind strategy. That includes environmental/wildlife stakeholders, financial stakeholders, community stakeholders, financial interests, landowners, regulatory agencies in finance, energy, transmission, utility companies and, most importantly, customers in the form of a power purchase agreement." Participants agreed that collaboration between multiple stakeholders is critical to wind energy decision-making.

Government official key informant interview summary

Governor Kathleen Sebelius and then-Lieutenant Governor Mark Parkinson were viewed as critical advocates for wind energy development in Kansas and their attention to wind energy during their term led to an increase in wind development in Kansas. Additionally, participants

concluded that state-level wind energy policy was critical to the increase in wind energy development within the state. The vast wind resource in Kansas is believed to be the foundation for the state's role in national wind energy development. Also, participants identified Kansas' central location as critical to the future of wind energy development within the state. Through collaboration between multiple stakeholders, participants believed wind energy development will be more sustainable.

Wind industry representatives

Descriptive summary of participants

Three key informant interviews were conducted with wind industry representatives. Key informants included a project manager of a major Kansas wind energy developer, a project manager of a major Kansas utility and a general manager of a Kansas municipal utility. All participants were male and white/caucasian.

Thematic analysis

Five major themes emerged as critical to wind industry representatives with respect to Kansas wind energy decision-making: production tax credit, economic benefit, transmission improvement and multiple stakeholder collaboration.

Production tax credit. Wind energy is incentivized through a federal production tax credit (PTC). Participants recognized the importance of the federal PTC to wind energy development in Kansas. One participant stated, "Unfortunately, to make a wind farm affordable, compared to other resources, you have to be able to take advantage of the tax credits that come through the federal government." Another participant expressed that when the PTC expires, wind energy development becomes more difficult. The participant asserted, "There is always uncertainty in

the level of production tax credit and other incentives at the federal level. During [the Smoky Hills development process] the production tax credit expired and was renewed a number of times, so trying to line up with those was somewhat of a challenge and will continue to be, as the PTC will expire in 2012." Participants concluded that the presence of a production tax credit is essential to the success and consistent growth of the Kansas wind industry. The second major theme that emerged from the key informant interviews was the economic benefits of wind energy development in Kansas.

Economic benefit. Participants illuminated the economic benefits associated with wind energy development. One participant concluded, "[Wind energy development] has been a good economic boost to a lot of rural areas." Another participant stated, "I think [our wind development company has] had a surprising amount of support from counties, landowners and local stakeholders from an economic development standpoint. The places that we are developing in all seem to be excited about the prospect of new tax dollars coming in and new jobs." The potential for economic benefit in communities was identified as essential to Kansas wind energy development. The third major theme that emerged from key informant interviews was the need for transmission improvements in Kansas.

Transmission improvement. Participants concluded that the current transmission system in Kansas is insufficient. One participant stated, "The one area I have been disappointed in is the developments of transmission in Kansas because of the wind [resource]… a lot of our cities are transmission constricted." The same participant stated, "[There are] a lot of areas [that] would be good for wind [development] today but there is no transmission available there. The cost to build necessary transmission is too high and makes the projects considered in that area unfeasible."

Additionally, participants concluded that for Kansas to continue developing wind, improvements in the transmission system were required. One stated, "I'm very optimistic that [Kansas has] great potential for wind development. It will take significant increases in our transmission grid." Although participants viewed the current transmission system as insufficient, they believed Kansas has great potential if the transmission system grows. The fourth major theme that emerged from key informant interviews was the importance of multiple stakeholder collaboration in wind energy decision-making.

Multiple stakeholder collaboration. Through multiple stakeholder engagement and collaboration, participants viewed wind energy development as more sustainable. One participant stated, "When you have development that occurs in secret, where …developers, power purchasers, agencies and local individuals… aren't [all] actively engaged and communicating with one another; then you can have a lot of surprises, which means projects might not move forward, so people might lose a lot of money. That can create an atmosphere of distrust, and developers and investors may lose confidence." The same participant asserted, "If you do this right, with full knowledge of everybody, then good projects get developed and bad projects get thrown out early." One sub-theme emerged as critical within the context of collaboration between multiple stakeholders: community engagement.

Sub-theme: Community engagement. Participants identified the importance of engaging and collaborating with community members during the wind energy project development process. One participant stated, "I think that there is both a top-down and bottom-up approach [to engaging communities]. The top-down is getting in touch with the power players – county commissioners, big landowners and people who have the sway in a county… The bottom-up is doing community-related events where you invite everyone who is near the project or a part of

the project to a dinner or something like that; [as the developer, we] explain the project, what is planning to be done… [the developers] are part of the community, and will be for 20 years if the project gets built, so there are a lot of things that [the developers] could and should do…"

Participants concluded that multiple stakeholder engagement and collaboration were critical to the sustainability of projects. Additionally, participants recognized community members as relevant stakeholders in wind energy decision-making.

Wind industry representative key informant interview summary

Through the presence of the production tax credit, transmission grid improvements and the involvement of multiple stakeholders in decision-making, participants concluded Kansas' wind industry will grow and succeed. Additionally, economic benefits associated with wind energy development were perceived to be positive for the community.

Wind advocacy group representatives

Descriptive summary of participants

Five key informant interviews were conducted with wind advocacy group representatives. Key informants included environmental non-governmental representatives, a representative of a Flint Hills organization, a wind energy promoter and landowner, and a creator of a Kansas wind energy database. Four of the five participants were male. All participants were white/caucasian.

Thematic analysis

Seven themes emerged as critical to wind advocacy group representatives with respect to Kansas wind energy decision-making: utility acceptance, economic development, location, state

wind energy policy, local decision-making, transmission improvement and developer transparency.

Utility acceptance. Participants viewed utility acceptance as critical to wind energy development in Kansas. One participant viewed utilities' acceptance of wind energy as the "tipping point" for wind energy development in Kansas: "We had utilities seeing the hand writing on the wall; that there were probably going to be…mandates coming down to the various utilities in the form of renewable portfolio standards. Some utilities decided they would get ahead of the curve…there was a tipping point where [wind energy] became feasible." Another participant stated utilities were not in favor of wind energy, but suggested state requirements forced them to be accepting: "In general, if you talk to utilities, they are not too excited about [wind energy] because it really changes how they have to balance the grid system. They have to have electricity. We want the lights to stay on all the time; it can't be intermittent. Balancing the grid has become more of a challenge with the addition of wind." Some participants viewed the slow growth in Kansas as a result of slow utility acceptance of wind. One asserted, "… utility acceptance has been the story [in Kansas]. The slow acceptance of wind power has really slowed wind development here." Another participant stated, "[A utility company] stepped forward halfheartedly [around 1999 and] put up two turbines [in a low wind area]. [The wind farm] underperformed and [the developer] promptly said „wind doesn't work in Kansas.' So being our largest utility, I think that slowed [Kansas wind energy development] down for a couple years." Although there are some discrepancies amongst participants, utility acceptance was viewed as critical to wind energy development in Kansas. The second major theme that emerged from key informant interviews was the economic development associated with wind energy development in Kansas.

Economic development. Both local and state entities were identified as beneficiaries of wind energy development in Kansas. Two sub-themes emerged within the context of economic development: local benefit and state benefit.

Sub-theme: Local benefit. Participants viewed that wind energy development benefits local communities. Some participants viewed job creation as a benefit for rural communities. One participant stated, "The benefits [of wind energy development] have been highly local…a minimal number of jobs, while in some of these counties any permanent jobs are welcome." Another participant stated, "Wind farms go in mostly rural areas. Adding eight jobs is a bigger impact in those areas than maybe Topeka or Wichita." Participants also discussed the benefit to local landowners. One stated, "Landowners [benefit]…they get some significant revenues, but it is a relatively small number of individuals in the state that are going to profit in any major way." Additionally, one participant, a landowner with turbines, stated, "Landowner payments are not insignificant. It allows people like me to preserve our family heritages."

State benefit. Participants viewed manufacturing as a key economic development opportunity for Kansas at a macro level. One participant asserted, "Manufacturing is probably the key. The states that have benefitted most around the country are those who have been able to capture on some form of manufacturing... which [brings] facilities that produce tax revenue and [many] well paying jobs." Another participant stated, "The jewel in the crown is when manufacturing comes. Those tend to create 100 jobs or more."

Wind energy development was viewed as a means of stimulating the local and state economies. Specifically, participants viewed job creation and landowner payments as critical to the local economy and manufacturing to the state economy. The third major theme that emerged

from key informant interviews was the importance of siting wind energy projects to mitigate environmental impacts.

Siting. Participants viewed the siting of wind energy projects as a critical aspect of wind energy development in Kansas. Some participants concluded that wind energy is beneficial if properly sited. One participant stated, "[It is] hard to think of a case where [wind energy development] would be detrimental, unless, of course, there is an uprising of uncontrolled, irresponsible wind energy development, where developers try to develop sensitive or pristine habitats." Another participant asserted, "Our [organization's] position is that we are in favor of wind energy as long as it is properly sited to minimize impacts…[developers] ought to go out into areas that no longer have their original, natural characteristics." One participant discussed the value of good siting to the sustainability of wind energy in Kansas. The participant stated, "I would hate to have a wind farm go in a place where it shouldn't go because it just makes the next [wind farm] that much harder [to develop]. That is why good siting is very important…" The same participant stated, "If we are going to be sustainable, [wind farms] need to be in places that will have a minimal impact on humans and endangered or threatened species." One sub-theme emerged within the context of siting: avoiding development within the tallgrass ecosystem.

Sub-theme: Avoiding development within the tallgrass ecosystem. Participants concluded that wind energy development within the tallgrass prairie ecosystem should be avoided. One participant stated, "[Wind energy development] is detrimental to the Flint Hills region. That is the last of the tallgrass prairie on the planet…we wouldn't put industrial wind facilities on the rim of the Grand Canyon or Yellowstone, so why would we put them in the tallgrass ecosystem…it defies logic." Another participant stated, "In general, the tallgrass prairie is a good place to avoid...farmlands tend to be better…"

The siting of wind energy projects was viewed as an essential aspect of wind energy development in Kansas. Additionally, participants expressed that developing wind energy projects within the tallgrass prairie ecosystem should be avoided. The fourth major theme that emerged from key informant interviews was state-level involvement in wind energy decision-making.

State wind energy policy. Policies at the state level were viewed as critical to wind energy development and decision-making in Kansas. Three sub-themes emerged within the context of state wind energy policy: Kansas wind industry growth, influence of Sebelius' administration and statewide siting guidelines.

Sub-theme: Kansas wind industry growth. Participants concluded that the late or insufficient wind energy policy in Kansas caused slow industry growth within the state. One participant stated, "[Development] has been painfully slow due to political resistance. Legislature in Kansas has been blatantly hostile to wind farming since its inception. To this day, they are not particularly friendly to it." Another asserted, "[Kansas is] late to the game…There were other states that were moving forward with policies that encouraged wind energy development (RPS). Kansas did not have an RPS until a few years ago."

Sub-theme: Influence of Sebelius administration. Participants viewed Sebelius' administration as integral to wind energy development in Kansas. One participant stated, "The most prominent individual who has influenced wind energy in Kansas has been the governor. Sebelius roped off a significant portion of the Flint Hills and said [we] can't have development there. That was a significant depression of wind development." Another participant asserted,

"While [Kansas was] late to the game, once [Governor] Sebelius made a commitment to expand [Kansas'] wind resources, there was a significant amount of interest in energy [as a result]…"

Sub-theme: Statewide siting guidelines. The prospect of state regulation of siting was a critical theme in advocates' assessments of Kansas wind energy development. Some participants believe there should be more regulation of wind energy projects within the state. One participant stated, "Our legislature would be against taking a serious look at regulating [the wind] industry. We could end up with a lot of unfortunate consequences as a result of that. Putting them in the wrong places is a part of that." Another participant asserted, "[Kansas should] come up with a statewide siting plan…If we could expand on [Sebelius' voluntary ban of development in the heart of the Flint Hills]; come up with other policies to address landowner and conservation concerns, that would be a step in the right direction." On the other hand, some participants viewed state-level guidelines as inappropriate because of the issues specific to different areas in Kansas. One stated, "If the state were involved [in siting decisions], the Flint Hills would be treated the same as southwest Kansas…"

Participants concluded that the slow development of statewide policies led to slow wind industry growth in Kansas. The Sebelius administration was viewed as integral in the push for increased wind energy development. Although participants' opinions differ with regard to state-level involvement in siting regulation, participants agreed that siting is an important issue in Kansas wind energy development. The fifth major theme that emerged from the key informant interviews was the significance of decision-making at the local level.

Local decision-making. Participants concluded that the majority of wind energy decision-making is conducted at the local level. One participant stated, "A lot of the decision-making happens at the local level. The counties, county commissioners and the landowner make the

decision [to develop wind energy]." One sub-theme emerged within the context of local decision-making: county zoning.

Sub-theme: County zoning. Participants viewed the land use zoning in counties as an important aspect of wind energy development in Kansas. A large emphasis was placed on the decision-making capacity in zoned and unzoned counties. One participant stated, "The only legitimate decision-making that is being done is in zoned counties. In the counties that are zoned, which is about half, the wind developers have to go through a zoning and planning process with the county and their planning staff and county commissioners. Among those that have zoning, they are underrepresented in terms of legal counsel and have few trained planning staff members…it is easy for them to make mistakes. They are not well equipped… then you have unzoned counties that have absolutely no decision-making apparatus whatsoever. No regulations that companies have to comply with." Another participant stated, "The zoned counties as a community can have a profound role in [decision-making]…other counties that don't have zoning at all are at the whims of developers. They really don't have the authority to stop projects." The same participant asserted, "In an unzoned county, [developers] don't need to tell the county commission [they] are [developing]; in an unzoned county, they do."

Participants concluded that the majority of wind energy decision-making is conducted at the local level. A common theme among participants was the insufficient capability for unzoned counties to be able to make decisions about wind energy in their community. The sixth major theme that emerged from key informant interviews was the importance of transmission improvements to the future of wind energy development in Kansas.

Transmission improvement. Participants stated that in order for the wind industry to grow in Kansas, there needs to be significant improvements in the transmission system. One

participant asserted, "Right now [development] is stalled until [Kansas] gets more transmission in place…in heavy wind areas (western Kansas); they are getting close to maxed out because they can't develop until they get more transmission lines." Another participant stated, "We have to improve transmission out of the region. [There is] no more power needed in the state of Kansas. Therefore, we have to create some significant transmission conduits to get the power out of the high plains and into states that are east of Kansas, into the more populated areas that actually need the power." The development of more transmission lines in the state of Kansas was viewed as essential to the growth of the wind industry. The seventh major theme that emerged from key informant interviews was the importance of transparent actions by developers.

Developer transparency. Participants concluded that transparency in developer actions is a critical aspect of wind energy development in Kansas. One participant stated, "Anyone who wants to do a project should start in a transparent manner…let [the community] know from the start: this is what we plan to do and how we are going to do it… [Some developers] like to do it that way. Other [developers] like to fly under the radar…" Another participant stated, "When [developers] decide to develop a site, they will keep it quiet and go around convincing landowners to develop with nothing public about it…a lot of secrecy there. There is room for change there…" The transparency in developers' actions was believed to be a critical aspect of wind energy development in Kansas.

Wind advocacy group representative key informant interview summary

Participants believed utility acceptance, siting wind projects and developer transparency were critical aspects of Kansas wind energy development and decision-making. State and local entities were considered to be beneficiaries of economic development. Participants concluded that the majority of wind energy decision-making is conducted at the local level. Slow wind

development in Kansas was associated with late or insufficient state wind policies. Additionally, growth in the wind industry is linked to an increase in transmission lines throughout the state.

Cross-stakeholder synthesis

Four themes emerged as critical to stakeholders with respect to Kansas wind energy decision-making: state and federal wind energy policy, transmission improvements, multiple stakeholder collaboration and county zoning.

State and federal wind energy policy. Participants across stakeholder groups viewed state and federal wind energy policy as essential to wind energy development in Kansas. Two sub-themes emerged within the context of state and federal wind energy policy: policy effect on wind industry growth and influence of Sebelius/Parkinson administration.

Sub-theme: Policy effect on wind industry growth. Participants across stakeholder groups viewed that the presence of state and federal policy paralleled wind industry growth in Kansas. A government official stated, "Utility scale wind increased in Kansas due to…the potential for a national internalized carbon price and/or a national renewable energy standard." An advocacy group representative stated, "[Kansas is] late to the game…there were other states that were moving forward with policies that encouraged wind energy development (RPS). Kansas did not have an RPS until a few years ago." A wind industry representative also asserted that developers rely on the production tax credit for development within the state: "… [Developers] have to be able to take advantage of the tax credits that come through the federal government."

Influence of Sebelius/Parkinson administration. Participants across stakeholder groups recognized the influence of the Sebelius/Parkinson administration on wind energy development within the state. One government official stated, "Utility scale wind increased in Kansas due

to…the attention/advocacy by the Sebelius/Parkinson administration." One wind advocacy group representative asserted, "While [Kansas was] late to the game, once [Governor] Sebelius made a commitment to expand [Kansas'] wind resources, there was a significant amount of interest in energy…" Additionally, one wind advocacy group representative stated, "The most prominent individual who has influenced wind energy in Kansas has been the governor. Sebelius roped off a significant portion of the Flint Hills and said [we] can't have development there. That was a significant depression of wind development."

Participants across stakeholder groups recognized the importance of state and federal goals to wind industry growth in Kansas. Additionally, the influence of the Sebelius/Parkinson administration on wind energy development within the state was viewed. The second major theme that emerged from stakeholder key informant interviews was the need for transmission improvements throughout Kansas.

Transmission improvements. Participants across stakeholder groups concluded that transmission improvements across Kansas are required for increased wind energy development within the state. One wind industry representative stated, "I'm very optimistic that [Kansas has] great potential for wind development. It will take significant increases in our transmission grid." One wind advocacy group representative asserted, "Right now, [development] is stalled until [Kansas] gets more transmission in place…in heavy wind areas (western Kansas); they are getting close to maxed out because they can't develop until they get more transmission lines." Additionally, one advocacy group representative stated, "We have to improve transmission out of the region. [There is] no more power needed in the state of Kansas. Therefore, we have to create some significant conduits to get the power out of the high plains and into states that are east of Kansas…" Transmission system improvements were thought to be essential to wind

industry growth in Kansas. The third major theme that emerged from stakeholder key informants was the importance of collaboration in wind energy decision-making.

Multiple stakeholder collaboration. Government officials and wind industry representatives concluded that multiple stakeholder collaboration was essential to wind energy decision-making. One government official asserted, "What I found was that it is critical to bring everyone to the table… state government leaders, utilities, the Kansas Corporation Commission, local communities and units of government, and landowners… are needed to be involved in wind energy development. All of these parties cannot stand to benefit unless they work together." One wind industry representative stated, "When you have development that occurs in secret, where [developers, power purchasers, agencies and local individuals] aren't [all] actively engaged and communicating with one another, then you can have a lot of surprises which means projects might not move forward, so people might lose a lot of money…If you do this right, with full knowledge of everybody, then good projects get developed and bad projects get thrown out early." Another government official stated, "There needs to be certainty that all private sector and public sector stakeholders are involved and agree on wind strategy. That includes environmental/wildlife stakeholders, financial stakeholders, community stakeholders, financial interests, landowners, regulatory agencies in finance, energy, transmission, utility companies, and most importantly, customers in the form of a power purchase agreement." Collaboration between multiple stakeholders, including community members, was viewed by stakeholders as essential to wind energy decision-making. The fourth major theme that emerged from stakeholder key informant interviews was the impact of county zoning on wind energy decision-making.

County zoning. The land use practices of counties are considered to have a significant impact on the decision-making capability of community members. One participant stated, "…among those [counties] that have zoning, [the counties] are underrepresented in terms of legal counsel and have few trained planning staff members…it is easy for them to make mistakes. They are not well equipped… then you have unzoned counties that have absolutely no decision-making apparatus whatsoever. No regulations that companies have to comply with." Another participant stated, "The zoned counties as a community can have a profound role in [decision-making]…other counties that don't have zoning at all are at the whims of developers. They really don't have the authority to stop projects." Whether a county is zoned or unzoned, participants view the ability of communities to make appropriate decisions regarding wind energy development to be imperfect.

Cross-stakeholder synthesis summary

Participants across stakeholder groups recognized the importance of state and federal goals to wind industry growth in Kansas. Transmission system improvements were thought to be essential to wind industry growth in Kansas. Collaboration between multiple stakeholders, including community members, was viewed by stakeholders as essential to wind energy decision-making. Participants concluded that the presence or absence of zoning regulations in a county have a significant impact on the decision-making capability of community members.

In the next chapter, the study findings and implications are discussed, along with the limitations of the current study and recommendations for future research.

CHAPTER 5

DISCUSSION

The purpose of this study was to examine community member perceptions of Kansas wind energy project decision-making and perceptions of decision-makers regarding the need for and/or appropriateness of engaging communities in Kansas wind energy project decision-making. More broadly, this study answered the overarching question: *What is the role of communication with the community in Kansas wind energy decision-making?*

This discussion chapter will answer the overarching question by addressing 1) community member perceptions of consultation in Butler, Kiowa and Wabaunsee counties and, 2) the perceptions of decision-makers regarding community consultation.

Overarching question

This section discusses the following: 1) the four critical components of wind energy decision-making: consultation, information, satisfaction and sustainability, 2) a communication grid grounded in the four critical components, and, 3) the four emergent communication paradigms located on the grid.

Four critical components of Kansas wind energy decision-making

Consultation, information, satisfaction and sustainability all emerged as critical components of Kansas wind energy decision-making. This section will discuss each component in detail.

Consultation

A dichotomy emerged with regard to consulting community members in wind energy decision-making. On one side, county decision-makers believed community members were

adequately consulted in the decision-making process regarding proposed wind energy development and the specific project in their county. On the other side, community members believed they were not adequately consulted.

Results indicated that decision-makers in the three counties believed that community members were adequately consulted and were given multiple opportunities to be involved in decision-making. One decision-maker asserted, "[Greensburg] citizens had a tremendous amount of feedback. They were putting in input from day one." Decision-makers also indicated that public meetings were a prevalent method of consultation. Decision-makers believed there were a sufficient number of public hearings where community members actively participated. One county decision-maker stated, "We had probably a half a dozen hearings/meetings over at the county courthouse. We had so many people that wanted to participate that we had to move the meetings to evenings so people could come after work."

In addition to providing the meetings, decision-makers concluded that community members were given adequate notification of public meetings. One participant asserted, "[There] was a hearing scheduled before the planning commission. A publication/notification of the hearing in accordance with state law. Also, notification was emailed out to all property owners within 1,000 feet of the proposed project…."

Although decision-makers concluded that community members were consulted about the project in their county, community members did not view their consultation as adequate. Many community members asserted that the public was not a relevant stakeholder in decision-making. One community member stated, "County planning people were aware [of the project], but it was not made public. Unless it's a person who is constantly going to planning and zoning meetings,

we did not know anything." Another community member asserted, "[The decision-making process was done before most people found out."

While community decision makers saw public meetings as a method used to consult the community, Community members concluded that there weren't enough public meetings and that people were not made aware of the meetings that were held. One community member stated, "I thought there would be more meetings on the farm itself. Maybe I haven't been looking down the right avenues, but there hasn't been much meetings about it." Another participant asserted, "[the planning and county commission] did not publish [a notification about the meetings] until right before [the meetings]…." In addition to inadequate public meetings and notification of public meetings, community members indicated that there was not fair or equal time for every community member to voice their opinion. One community member stated, "Most of the problem [with public meetings] lied with the fact that people only got three to five minutes of speech, and the larger group got more time to say this stuff."

Community members also believed that the developer of the project in their county did not do enough to consult the community. One participant asserted, "…I think that [the developers] should have had more meetings to explain to the local people [all of the benefits]. I just think they should have…as they developed the project, developed the community to embrace the project."

To conclude, a dichotomy emerged with regard to consultation, where decision-makers believed community members were consulted and community members did not agree.

Information

Community members viewed information as critical to wind energy decision-making. Participants concluded that there was a great deal of information available to community

members and it was disseminated through formal and informal channels. Due to the prevalence of word-of-mouth information, misleading and inaccurate information was spread throughout communities. As a result many community members concluded that individuals should self-educate about wind energy in general and the project in their county in specific. Additionally, participants concluded that more credible, quality information should be provided by developers, experts who don't have a vested interest in the project and advocacy groups.

First, community members concluded that there was a plethora of information available to the public about the project in their county and wind energy in general. Information was disseminated through formal and informal channels. The most common formal channel was the newspaper. One participant stated, "There was a lot of information in the paper about [the wind farm] that you could read." In addition to the newspaper, informal channels, like word-of-mouth, were used to spread and gain information. One participant stated, "I heard about [the wind farm] from my church [and] preacher…." Word-of-mouth was the most common way of gathering information.

Because word-of-mouth was the dominant mode of information gathering and dissemination, misleading and inaccurate information was spread throughout communities. One participant stated, "[There were] all sorts of inaccurate claims…a lot of misunderstanding and misinformation…." Another participant asserted, "…false information got out there, and people were scared of that."

Community members concluded that to combat misleading and inaccurate information, individuals should self-educate. One participant stated, "The majority of groups that I've talked to are educated in the stories that hit the news, but not educated about the behind-the-scenes type of things about wind power. [County citizens should] become more educated about wind, as far

as who benefits from it. To best argue your position, you need to be educated on both sides of it." Another participant asserted, "[Citizens should] continue to study and watch and learn about [wind energy projects]…."

Community members also believed that credible, quality information should be provided to the community by developers, experts who don't have a vested interest in the project and advocacy groups. Many community members expressed that developers should provide more quality information to the public about the project in their county and wind energy in general. One participant stated, "I think it would be nice for whoever is developing [a project to] explain how wind power works because a lot of us don't know how wind energy works."

Community members also believed that credible, quality information should be provided to the community by developers, specifically, they wanted information from experts who don't have a vested interest in the project and advocacy groups. Many community members believed that developers had a vested interest in the project and had a history of secrecy regarding contracts. Due to their vested interest and history, community members viewed developers as an unreliable source of information. One community member stated, "[Information] was not credible [from] the energy companies…they literally said putting up wind towers would bring home the soldiers from overseas…." Another participant that worked for a developer asserted, "I would try to provide information, [but] it was discredited because I was from the company trying to build a project." In one of the counties, outside experts were essential players in providing information to the community. One participant stated, "[The city] had a lot of help from experts…they helped us evaluate our options."

In addition to the belief that developers were not credible sources, advocacy groups were identified as playing a role in disseminating misinformation. One participant stated, "[There

were] all sorts of inaccurate claims…a lot of misunderstanding and misinformation [provided by the opposition].” Many community members concluded that these groups should provide quality, credible information.

To conclude, community members identified information as critical to wind energy decision-making. Additionally, there was a large quantity of information available to community members and formal and informal channels were used to disseminate information. Word-of-mouth was a prevalent channel through which information was gathered and disseminated. As a result of the reliance on word-of-mouth, misleading and inaccurate information was spread throughout communities. To differentiate between good and bad information, community members concluded that individuals should self-educate about wind energy in general and the project in their county in particular. Additionally, participants decided that more credible, quality information should be provided by developers, experts who don’t have a vested interest in the project and advocacy groups.

Satisfaction

Results indicated that the degree to which community members were consulted and informed on wind energy project decision-making was directly related to community members’ satisfaction with the wind energy decision-making process. In many cases, satisfaction with project decision-making was related to whether or not community members agreed with the decisions ultimately made regarding the project in their county. For example, in Wabaunsee County, those who were satisfied with project decision-making process were largely in favor of the ban on industrial wind development in the county. This conclusion suggested that consulting and informing community members was superfluous; however, based on this study, community members that were not consulted or informed about the project in their county formed an opinion

based on false information that was spread by word-of-mouth. Therefore, one can conclude that through early consultation and the dissemination of quality information, community members can make more informed decisions about wind energy in general and the project in their community.

Sustainability

Two versions of sustainability are relevant to the discussion of wind energy decision-making, the sustainability of the community and the sustainability of the wind energy industry in Kansas. This section discusses both versions types of sustainability through analysis of current study data and literature reviewed.

First, a question emerged about the impact of wind energy decision-making on the sustainability of communities. To address this issue, the Sustainable Livelihoods Approach (SLA) provided a framework for analyzing the sustainability of rural livelihoods (Brocklesby & Fisher, 2003). Additionally, SLA principles for guiding sustainable rural development are used to discuss the implications of consultation and information to the sustainability of communities.

According to the SLA, there are five livelihood asset categories: financial, natural, physical, human and social (Scoones, 2005). Currently, rural livelihoods in Kansas are weakened due to diminishing financial and human assets, and limited access to physical assets. However, due to significant natural resources, like wind, rural Kansas has the potential to strengthen the economic base.

Due to the need for increased financial assets, wind energy development is believed to be an economic opportunity that rural Kansas communities must consider. There were some differences of opinion among community members in terms of how much the community really benefited from wind energy development. Mainly, community members were concerned with the

payments that are made to the county in-lieu of paying property taxes. Some community members viewed the economic development as insignificant; however, in the case study counties, any economic development benefitted the community. With that in mind, wind energy development in rural communities contributed to the improvement of financial assets.

A problem associated with the economic opportunity of wind energy development was the belief that the promise of economic development overpowered the need for community involvement in project decision-making, which has significant implications for the sustainability of the community. If economic development trumps community opinion, communities are at risk of having development that is inappropriate for their community. Additionally, without consultation, the community may not receive what is needed from the wind project that would contribute to reducing vulnerability and increasing sustainability.

As indicated in the review of literature, physical assets, such as health care facilities (Graziplene, 2009), and local businesses (KSU, 2010), are limited. Community members indicated that tourism and payments to the counties have offered a boost to the community that allows the community to rebuild and refurbish buildings and schools. Therefore, wind energy development offers limited improvement to increasing physical assets.

Another aspect of wind energy development in rural areas is the promise of job creation. Community members across counties indicated that job creation was minimal. On the other hand, a stakeholder indicated that any job creation benefits rural communities. This participant stated, "Wind farms go in mostly rural areas. Adding eight jobs is a bigger impact in those areas…." Although wind energy development in rural areas provides job opportunities, community members indicated that most of the employees do not live in the community where

the wind farms are located. Thus, community members indicated that wind energy development did not contribute to the improvement of human assets.

Lastly, community members indicated that the divisive debate around the wind energy project in their county caused tension among community members and ultimately led to community division and damaged relationships. The majority of the highly emotional debate was due to the inadequate consultation and information provided to community members about the project in their county and wind energy in general. As indicated in the review of literature, social assets are critical to the sustainability of communities (Scoones, 2005). Based on the data in this study, social assets were diminished, thus deteriorating the sustainability of the community.

As indicated in the review of literature, a community's livelihood is sustainable when it can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation (Scoones, 2005; Ashby, 2003; DFID, 1999b; Chambers & Conway; 1991). Based on the data in this study, communities that decided to develop wind energy maintain, enhance and diminish community assets. So, the sustainability of communities depends on the balance between maintaining and enhancing, and diminishing. Theoretically, if a community is not benefitting financially, and the community member relationships are damaged, the community is less sustainable; on the other hand, if the community is benefitting financially and the wind energy project offers job opportunities and promotes healthy community relationships, the community is more sustainable. Thus, community participation in wind energy decision-making is critical to the sustainability of communities because community members must negotiate assets that lead to improved community livelihoods.

The second aspect is the sustainability of the wind industry in Kansas. Community participation in wind energy decision-making emerged as critical to the sustainability of the wind energy industry in Kansas. Results of the secondary analysis and key informant interview analysis indicated that sustainability is the outcome of consulting and informing community members about the wind energy project in their community and wind energy in general. As the review of literature indicated, participation and community involvement in rural project decision-making enhances the development of projects that are more sustainable, efficient and effective (Owen, 2007).

Brand and Gaffikin (2007) posit that partnerships between project developers, representatives of local governments, businesses, advocacy groups and community members foster joint learning and negotiation. Therefore, by involving community members in decision-making, they can learn about the project under consideration and the developer can learn about the community where the wind energy project will be located. Through active collaboration and co-creation of knowledge, wind energy projects are more likely to be tailored to the community rather than externally developed (Owen, 2007), which enhances project sustainability. The data indicated that consultation and information and subsequent tailored project planning, led to increased satisfaction in wind energy decision-making and a positive opinion of wind energy in general. Additionally, participants indicated that a positive result of consulting the community in decision-making is the ability to negotiate whether projects are appropriate for all stakeholders. One stakeholder indicated, "If you do this right, with full knowledge of everybody, then good projects get developed and bad projects get thrown out early."

Based on the themes and subthemes that emerged through thematic analysis, a communication grid was developed. The following section discusses this grid.

Communication grid

The communication grid consists of two continua that emerged from this study. The first was a consultation continuum, where participants indicated the level of consultation with community members in project decision-making. On one side of the continuum, there was full consultation with community members; on the other there was no consultation. The majority of the community members found themselves somewhere in between the two extremes. The second was an information continuum, where participants indicated how informed they felt about wind energy in general and the project proposed for their community in particular. On one side of the continuum, community members indicated they were fully informed; on the other end of the continuum, community members believed they were uninformed or misinformed. Study participants by and large considered themselves at least marginally informed regarding wind energy in general and the project proposed for their community.

Together, the consultation and information continua created a communication grid, with consultation on the x-axis and information on the y-axis. The communication grid is indicated in Figure 2.

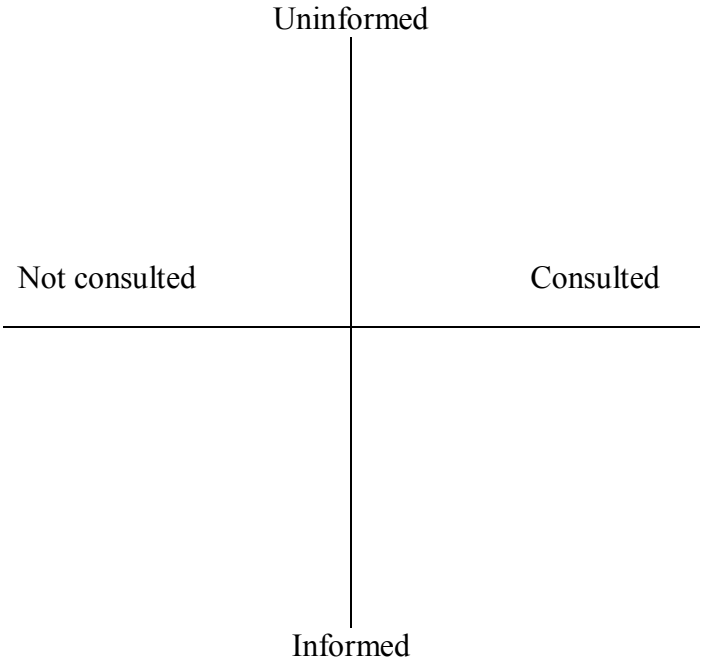

FIGURE 2. Communication grid

As indicated previously, the degree to which community members were consulted and informed on wind energy project decision-making was directly related to community members' satisfaction with the wind energy decision-making process. The following section outlines these relationships in detail through an explanation of four emergent paradigms.

Emergent communication paradigms

This study illuminated four paradigms that fit on the communication grid. Each paradigm consists of community members' perceptions of consultation and information about project decision-making, as well as their expressed level of satisfaction with the project decision-making process. Paradigms one, two and three were existent and paradigm four is theoretical. The four paradigms are indicated in Table 5, along with the degree to which community members were

consulted and informed about the wind energy project in their county, as well as the degree to which they were satisfied about the decision-making in the county.

TABLE 5

EMERGENT COMMUNICATION PARADIGMS

Dominant paradigms	Degree of Consultation	Degree of Information	Degree of satisfaction
Paradigm #1	Not consulted	Uninformed	Unsatisfied
Paradigm #2	Not consulted	Informed	Unsatisfied
Paradigm #3	Moderately consulted	Moderately informed	Satisfied
Paradigm #4	Fully consulted	Informed	Satisfied

Based on degree of consultation, information and satisfaction, each paradigm can be placed within a quadrant of the communication continuum. Figure 3 signifies the quadrant in which each paradigm is located.

These paradigms emerged inductively through an analysis of the themes and subthemes found in study data, specifically: 1) location, a) wind energy development in the Flint Hills region, b) visual landscape, c) wind energy development enhances community image, 2) economic development, a) county-level, b) individual-level impact, 3) impact of wind energy decision-making on community member relationships and 4) education, a) self-education and b) public education.

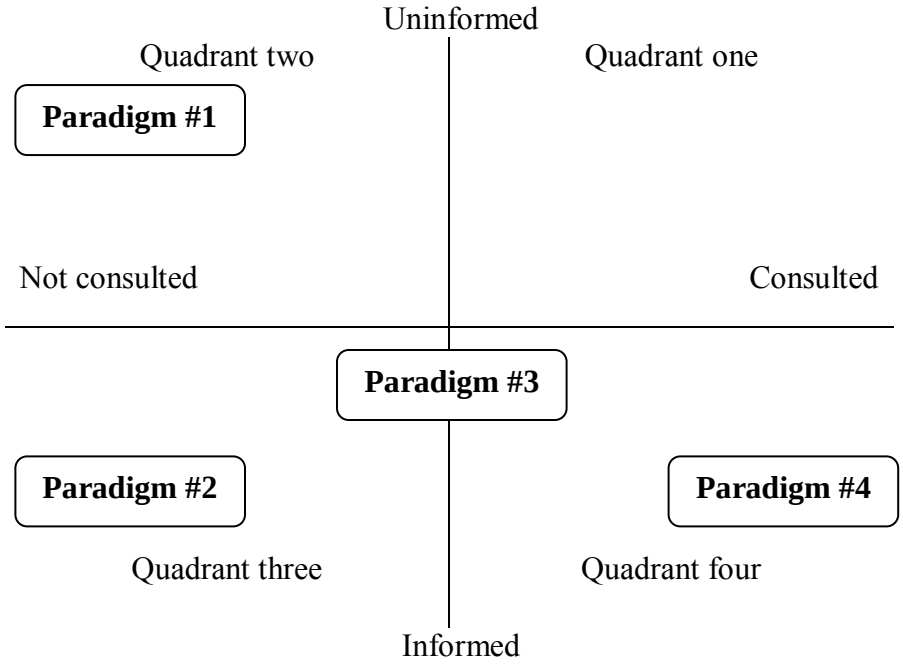

FIGURE 3. Quadrants of the communication grid and paradigm locations

The discussion of each paradigm includes: 1) a general description of the paradigm and its components and 2) examples of the paradigm.

Paradigm #1: Not consulted – uninformed.

Paradigm #1 falls within quadrant two of the communication grid, whereby community members were not consulted about or informed regarding the wind energy decision-making process. This paradigm includes individuals who believed that they had no voice in project decision-making and had limited access to information regarding wind energy projects. As a result of non-consultation and inadequate information, individuals were generally unsatisfied with wind energy decision-making. Additionally, state-level decision-makers concluded that not consulting community members has negative consequences for wind energy development in Kansas.

Examples of paradigm #1 can be illustrated by Butler and Wabaunsee County data. Many community members in these counties believed that they were not consulted and not informed regarding the project in their county. Community members identified that they became aware of the project in their county late in the decision-making process. One Butler County participant stated, "[The decision-making] process was done before most people found out." Additionally, in Wabaunsee County, one participant asserted, "[I] didn't know the [Munkers Creek] project existed until they wanted to sign [landowners] up for it…."

The majority of the community deliberations occurred in public hearings. Community members in Butler County associated inadequate consultation and information about the Elk River Wind Farm with insufficient information regarding when and where public hearings were held. A Butler County participant stated,"…[the planning and county commission] did not publish [information about the meetings] until right before [the meetings]...."

State-level decision-makers believed that when community members are not consulted about wind energy decision-making, many problems can occur during project development. One decision-maker asserted:

> When you have development that occurs in secret, where …developers, power purchasers, agencies and local individuals… aren't [all] actively engaged and communicating with one another; then you can have a lot of surprises, which means projects might not move forward, so people might lose a lot of money. That can create an atmosphere of distrust, and developers and investors may lose confidence.

Community members also believed they were not informed about the project in their county. One participant stated, "The public had very little information." Another participant asserted, "Commissioners had all the information and weren't forthcoming…"

Community members were unsatisfied with decision-making because they were not consulted or informed about the project in their county until late in the decision-making process which prohibited them from being active participants in the decision to develop wind energy in their county.

In sum, paradigm #1 includes community members who perceived that they were not consulted or informed about the wind energy project in their county. As a result of inadequate consultation and information, community members were unsatisfied with wind energy decision-making.

Paradigm #2: Not consulted – informed.

Paradigm #2 falls within quadrant three of the communication grid, whereby community members were not consulted about the specific wind energy project, but were informed about wind energy in general and the wind energy decision-making process for the project in their county in particular. This paradigm includes individuals who believe that they had no voice in project decision-making but had information regarding the wind energy project. As a result of non-consultation, individuals were generally unsatisfied with wind energy decision-making.

An example of paradigm #2 emerged in Wabaunsee County data. Many community members in Wabaunsee County believed that they were not consulted but informed about the project.

Community members concluded that they did not have a voice in the decision-making process due to inefficient public meetings that weren't conducive to equal participation. One participant asserted, "Most of the problem lied with the fact that people only got three to five minutes of speech, and the larger group got more time to say this stuff. [The opposition] would give their three minutes to the lawyer and pile [the time] up; he'd run out of stuff to say and read

Shakespeare." Additionally, some participants asserted that there wasn't enough effort from the developer to consult community members. One participant stated, "…I think [the developers] should have had more meetings…I just think they should have…as they developed the project, developed the community to embrace the project."

Community members also indicated that there was a lot of information available about the wind energy project and wind energy in general. One participant stated, "…It might not have been a particularly high quality, but there was lots of information" Another participant asserted, "…the ban did bring more information to the public by stirring up controversy, brought about good and bad information."

Although community members believed they were informed about the project in their county, they desired to have more involvement in the decision-making process and thus were unsatisfied.

To conclude, paradigm #2 includes community members who believed they were not consulted but were informed about the decision-making process. Despite being informed about the project decision-making process, community members were unsatisfied with wind energy decision-making because they were inadequately consulted.

Paradigm #3: Moderately consulted – moderately informed

Paradigm #3 falls within quadrants three and four of the communication grid, whereby community members were moderately consulted and informed regarding the wind energy decision-making process. This paradigm includes individuals who believed that they were consulted at appropriate times during the decision-making process and were informed of wind energy projects. As a result of appropriate consultation, individuals were satisfied with wind energy decision-making.

An example of paradigm #3 emerged in Kiowa County data. Community members in Kiowa County believed they were consulted and informed during the early stages of development but consultation and information were not sustained throughout the decision-making process.

During the beginning stages of development, when the City was deciding to rebuild "green", there were multiple community meetings to determine the city's course of action. "Going green" was a collective community decision and community members saw the development of the Greensburg Wind Farm as just one piece of the process that would make them a model green town. As a result, community members were vital to the initial decision-making process that laid the foundation for the Greensburg Wind Farm. One participant stated, "[Greensburg] citizens had a tremendous amount of feedback. They were putting in input from day one." However, after the community made the decision to rebuild "green", community members weren't consulted about details regarding the wind energy project. This was mainly due to the fact that after the tornado, "people had other things to deal with". One participant stated, "If you had some input from the whole town every time we put our foot down, we would still be in tents. There is no way you could build a town from scratch, so you leave these decisions to [decision-makers]."

Community members also indicated that they were moderately informed about the Greensburg Wind Farm. During the early stages of development, outside experts came in to Greensburg to inform community members about a possible wind farm as a part of the City's plan to rebuild "green". One participant stated, "[The city] had a lot of help from experts, like the Department of Energy and National Renewable Energy Laboratory, and they helped us evaluate our options." Community members also concluded that because they were informed early in the

decision-making process, they did not need to be informed about decisions regarding the wind energy project. One participant asserted, "There could have been enough information. I was busy with so many other things, and I knew it was getting built, so that's all I needed to hear."

Due to early consultation and information, community members were satisfied with wind energy decision-making regarding the Greensburg Wind Farm.

To conclude, community members in Greensburg were consulted and informed up front about the general strategy to "go green"; the wind energy project was viewed as a logical extension of this decision by community members. Additionally, community members stated they were not consulted or informed about minor details of the wind energy project. Overall, community members were satisfied with the decision-making in their community due to early consultation and information about the project.

To conclude, paradigm #3 consisted of community members who believed they were moderately consulted and informed early about the project decision-making process. Although only consulted moderately, community members remained satisfied with wind energy decision-making because they were involved early on in the process and were essential stakeholders in the decision-making process. The Greensburg Wind Farm is a unique case. Most wind energy projects are not built in areas where a natural disaster has recently devastated a town. The Greensburg community had collectively decided to "go green" after the tornado led community members to view the wind farm as consistent with their overall objectives. This consistency, along with the need to rebuild their individual lives may have led community members to be satisfied with less than optimal consultation and information.

Paradigm #4: Fully consulted – informed

Paradigm #4 falls in quadrant four of the communication grid, whereby community members are fully consulted and informed regarding the wind energy decision-making process. Paradigm #4 is a theoretical paradigm that was implied in the data. Both community members across counties and county and state-level decision-makers identified the importance of consulting the community at all stages of the decision-making process and informing community members about both wind energy projects impacting their communities and wind energy in general. Additionally, community members identified that if those two components were present, they would be more satisfied with wind energy decision-making. This paradigm was developed based on these principles in order to illuminate a "best practice scenario" for wind energy decision-making.

First, community members across counties expressed that they would like to be consulted in all stages of the decision-making process. The early stage of the decision-making process was identified as the most critical. Community members concluded that consultation with the community early in the decision-making process was essential to community member satisfaction. If communities were not consulted early in the process, community members were not satisfied with decision-making regarding the project in their county. One participant stated, "I heard it through word of mouth; [the planning commission and county commission] did not publish [information about the meetings] until right before [the meetings] came up." In the county that had early consultation, community members were satisfied with the decision-making in their county. One participant stated, "[Greensburg] citizens had a tremendous amount of feedback. They were putting in input from day one." Community members also believed that they should have the ultimate decision as to whether their community should develop a wind

energy project. One participant stated, "Everyone in the county should have had input. It should have been put to a popular vote by the county."

State-level decision-makers believed that community members should be fully consulted about wind energy decision-making. One state-level decision-maker asserted, "If you do this right, with full knowledge of everybody, then good projects get developed and bad projects get thrown out early."

In addition to being consulted, community members desired more information regarding the project in their county and wind energy in general. One participant stated, "[Citizens should] continue to study and watch and learn about [wind energy projects]. The learning part is crucial." Another participant asserted, "…[County citizens should] become more educated about wind…to best argue your position, you need to be educated on both sides." Additionally, one participant stated, "There should be more education about wind energy…."

As a result of adequate consultation and information, community members implied that they would be more satisfied with decision-making if they were consulted and informed about the wind energy project in their community and wind energy in general.

In sum, paradigm #4 would involve community members that believed they were fully consulted and informed about the wind energy decision-making process. As a result, these community members would be satisfied with wind energy decision-making. The following sections discuss limitations of this study, directions for future research, and the implications of the four paradigms for the sustainability of communities and the wind energy industry in Kansas.

Limitations

While this study was successful in illuminating important information with regard to wind energy decision-making, there were some limitations. First, since the first section of the

thesis analyzed existing data, the researcher could not expand or clarify meanings during the conduct of key informant interviews or focus groups. For example, if a participant stated something in the audio-recording that the researcher did not understand, she could not probe the participant for further information. Second, the data is only representative of those who were willing to participate during the conduct of the research. For example, in Wabaunsee County participants were wary about interviewing because they were in the middle of a court case. . Ultimately, many of the people researchers hoped to interview did take part in interviews or focus groups, but it is not clear whether or not there were other segments of the population which did not choose to come forward or about which the researchers were not informed. Third, this was a qualitative cross-sectional study where conclusions can only be drawn about the research sample. Therefore, the findings of this study are not generalizeable. Fourth, the opinions held by participants documented in this study may have changed since they were collected, or may not be representative of those who did not participate in the study. Despite the limitations, the triangulated methodology (Maxwell 2009; Green, 2007; Brewer & Hunter, 2006; Denzin, 1978) and consistent results across methodologies enhanced confidence in the findings.

Future research

To expand upon the research presented in this thesis, there are several future research projects to consider. First, further key informant interviews should be conducted with government officials, wind energy industry representatives and wind advocacy group members in order to gain a richer perspective. Second, two wind organizations have published materials regarding the consultation of community members during wind energy development. One organization, the American Wind Energy Association (AWEA) (2008) has published siting guidelines which include tips for developers on how to interact with community members.

Additionally, the Canadian Wind Energy Association (CANWEA) (2008) has published a guide for community engagement. Future research should include a comparison of the results of this thesis to the two publications offered by CANWEA and AWEA. Through a comparison, insights can be gained as to the appropriateness of both the CANWEA and AWEA documents to the community members that participated in this study. Third, it would be useful to interview wind energy developers that have developed or have proposed projects in Kansas with regard to their views on consultation with the community. The results of such a study could affirm the results of this thesis or could illuminate new insights into the wind energy perspective on community consultation. Lastly, it would be useful to conduct an assessment of the impact of consultation on wind energy project trajectories. Through this assessment, researchers could identify if community engagement is a factor in facilitating or impeding wind energy decision-making.

Conclusion

As wind energy development increases in rural areas of Kansas, it is increasingly critical that projects are being developed that are sustainable for both communities and the wind energy industry in Kansas. This study provided two perspectives on wind energy decision-making in Kansas, the community member and state-level decision-maker perspectives.

Results of this study indicated that there were four critical components of wind energy decision-making: consultation, information, satisfaction and sustainability. First, community members and county decision-makers had different opinions of the degree to which community members were consulted about the wind energy project in their county. Largely, county decision-makers believed community members were consulted more than community members did. Second, participants indicated that having information about the project in their county and wind energy in general were critical to wind energy decision-making. Additionally, participants

suggested self-education and credible, quality information should be provided by developers, experts and advocacy groups. The most credible source would be those experts who don't have a vested interest in the project. Third, the degree to which community members were consulted and informed on wind energy project decision-making was directly related to community members' satisfaction with the wind energy decision-making process. Fourth, community engagement in the wind energy decision-making process is related to the sustainability of both the community and the sustainability of the wind industry in Kansas.

Results of this study indicated that through adequate consultation and information, community members and relevant stakeholders can collaboratively develop wind energy projects that are mutually beneficial and promote sustainable rural livelihoods and sustainable wind energy industry growth in Kansas. Additionally, the emergent paradigms indicated that overall community members in this study did not feel adequately consulted or informed about the wind energy project in their county or about wind energy in general.

The implications of this study for wind energy development in Kansas are significant. The current wind energy development practices, based on the results of this study, involve minimal to no consultation with community members and information about the project in their community. If Kansas is to improve the sustainability of wind energy development throughout the state, communities should be actively involved in wind energy decision-making. Quality community consultation and information in Kansas wind energy decision-making increases the likelihood that projects will be sited appropriately, will enhance the economic development of rural economies as well as provide an economical approach for wind energy developers, and will recognize the inherent impact of wind energy decision-making on communities and individuals.

Through appropriate development of wind energy projects, which includes community member engagement, Kansas can efficiently tap its rich wind resource and meet federal and state goals for wind energy development. Additionally, rural Kansas communities can be more sustainable due to the development of projects that are people-centered and involve broad partnerships between public and private sectors.

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APPENDICES

APPENDIX A

KEY INFORMANT INTERVIEW QUESTIONS

These general questions were used for both key informant interviews in the case studies used for the secondary data analysis and the state-level decision-maker analysis. Wording was altered to complement the corresponding county or group.

1. What is your opinion of wind energy?
    a. Have you always held this opinion?
        i. If No, how has it changed?
2. From your perspective, please tell me the story of wind energy development in Kansas.
3. Has wind energy development hurt Kansas?
    a. How?
4. Has wind energy development helped Kansas?
    a. How?
5. Do you think wind energy development will be beneficial to Kansas in the future?
    a. Why?
6. Do you think wind energy development will be detrimental to Kansas in the future?
    a. Why?
7. Who are the key groups or individuals involved in Kansas wind energy decision-making?
8. What was/is your role in wind energy decision-making?
9. Is there a role for communities in wind energy decision-making?
    a. If yes, what strategies should be used for engaging community members in decision-making?
    b. If no, who should be involved?
10. What steps are critical for creating sustainable wind energy projects in Kansas?

APPENDIX A (continued)

11. Are there any unique issues facing your group in wind energy decision-making?

12. Is there anything else you would like to add?

APPENDIX B

FOCUS GROUP QUESTIONS

These general questions were used for focus groups in the case studies used for the secondary data analysis. Wording was altered to complement the corresponding county.

1. Before the _____ project, did you have an opinion about wind energy?
    a. Probe: What was it?
    b. Follow-up: Has your opinion changed? How?
2. Did you think this project was a good idea or a bad idea for _____ County?
    a. Probe: Why?
    b. Follow-up: Has your view on this project changed?
3. Did you feel that there was enough information from all sides to help you decide if you thought the project was a good or bad idea?
4. Who do you remember information coming from?
    a. Did you find their information credible?
    b. Were there groups you wanted to hear more from? (Who?)
    c. Were there points of view you wish you had learned more about? (What information would you have liked to receive?)
    d. Have any new questions arisen for you?
5. Who do you think should benefit from wind power projects? (list specific groups)
6. Did all interested groups and individuals have a fair amount of input as the Project was considered?
    a. Probe: Did all interested groups and individuals have a fair amount of influence in the process?

APPENDIX B (continued)

7. Has the Project had a negative impact on _____ County?
    a. What were the negative impacts?
8. Has the Project had a positive impact on _____ County?
    a. What were the positive impacts?
9. What are some pitfalls that wind power developers should avoid?
10. What are some pitfalls that those against wind power projects should avoid?
11. Is there anything else you'd like to tell us?