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**Utah Perspectives from the
Second Annual Harvesting Energy Summit (2007):
Outcomes from the
“Dialogue Diner” and Stakeholder Panel Sessions**

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EXECUTIVE SUMMARY

This report summarizes the outcomes of two sessions from the 2nd Annual Intermountain Harvesting Energy Summit held in Salt Lake City, Utah, February 26 to 28, 2007. The first session, “Utah Discussion: What Policy Initiatives Will Move Our State Forward?” (held February 27), centered around a small group discussion “Dialogue Diner” activity. The discussants included approximately 30 Utah conference attendees regarding their perceptions of Utah’s energy situation and issues facing wind power/renewable energy development in the state. The second session, “Utah Stakeholder Perspectives Panel” (held February 28), included San Juan County Commissioner Bruce Adams, wind developer Tracy Livingston, Public Service Commissioner Richard Campbell, and Utah Associated Municipal Power Systems General Manager Douglas Hunter. The panelists offered their views and answered questions posed by conference attendees on the issues and barriers facing wind power development in the state.

Collectively, the two sessions highlighted several important issues, including the inherent risks associated with Utah’s over-reliance on coal-fired electricity generation and the price volatility of natural gas. A number of barriers facing wind power and renewable energy development were identified, including misperceptions and a lack of experience with renewable energy among utility executives, legislators, county commissioners, and other decision makers. The public’s lack of awareness and general apathy about energy issues facing Utah were also noted as key problems. Consequently, education for these constituents was identified as an important need.

Several proposals for encouraging wind power and renewable energy included the state’s adoption of tax incentives and a renewable portfolio standard (RPS). Given Utah’s conservative political climate, most recognized the Utah State Legislature’s distaste for government mandates. RPS for Utah, nevertheless, is a viable option for the future, given surrounding states’ adoption of the policy and increasing market, policy, and social pressures to address climate change (e.g., from California, a significant buyer of Utah-produced electricity). Moreover, renewable energy’s inherent price stability and in-state economic development opportunities could appeal to local and state policy makers. Additionally, city council meetings were recognized as important forums for encouraging the adoption of renewable energy, given their control over municipal utilities and policies.

Finally, the important role of renewable energy supporters was recognized as well as the need to maintain and expand a network to share information and coordinate efforts to facilitate the development of renewable energy in Utah. This network would include government agencies, regulators, universities, public schools, local governments, businesses, and clean energy advocates. Some of the major recommendations resulting from these sessions are as follows:



- Diversify Utah’s energy portfolio to include price-stable wind power through incentives and a renewable portfolio standard.
- Facilitate education and outreach initiatives among utility executives, legislators and policy-makers, and Utah citizens. Such initiatives should explain Utah’s energy situation and the inherent risks associated with Utah’s over-reliance on coal (e.g., the likelihood of future carbon taxes, dwindling economically accessible coal supplies in Utah, conflicts over water use, and threats to environmental quality and citizens’ health).
- Promote wind power development’s economic opportunities for Utah’s rural communities.



SECOND ANNUAL INTERMOUNTAIN HARVESTING ENERGY SUMMIT

The Intermountain Harvesting Energy Network supports grassroots rural leaders and agriculture-driven networks to advance renewable energy development in seven states: Colorado, New Mexico, Arizona, Nevada, Utah, Wyoming, and Kansas. The Network held its second annual summit in Salt Lake City, Utah, February 26 to 28, 2007, and more than 185 attendees came to learn, discuss, and share information pertaining to biofuels, public policies to advance renewable energy, and wind power development for rural economic development. (For more information on the 2007 Summit, go to <http://www.harvestenergy.org/ihen/index.html>).

Wind energy is the fastest-growing energy source in the United States and the world, and increasingly, wind power development is rejuvenating struggling rural economies. However, demand is constraining the equipment market with many large developers often making turbine purchases 3 years in advance. Texas, with 2,768 megawatts (MW) of installed capacity, recently surpassed California as the leading wind power-producing state. However, Utah, with less than 1 MW of installed capacity of wind power, faces numerous barriers, which were the subject of several sessions.

This report summarizes the outcomes of two key sessions. The first session, “Utah Discussion: What Policy Initiatives Will Move Our State Forward?” (held February 27), centered around a “Dialogue Diner” activity. This small group discussion involved Utah conference attendees who shared their perceptions of Utah’s energy situation and issues facing wind power and renewable energy development in the state. The second session, “Utah Stakeholder Perspectives Panel” (held February 28), included San Juan County Commissioner Bruce Adams, wind developer Tracy Livingston, Public Service Commissioner Richard Campbell, and Utah Associated Municipal Power Systems General Manager Douglas Hunter. Dr. Laura Nelson, Energy Advisor for Utah Governor Jon Huntsman, was invited but did not participate. The panelists offered their views and answered questions posed by conference attendees on the issues and barriers facing wind power development in the state. Several recommendations based on the outcomes of these sessions are noted later in this report.



Utah “Dialogue Diner” Session (February 27, 2007)

On the second day of the conference, a session entitled, “Utah Discussion: What Policy Initiatives Will Move Our State Forward?” was held. It incorporated an interactive, small-group “Dialogue Diner” activity to facilitate discussion among conference participants about their perceptions of Utah’s energy situation and renewable energy development. About 30 Utah conference participants engaged in the activity, many of whom have been involved in renewable energy development throughout Utah. Their affiliations and professional backgrounds included the following:

- County and rural economic development
- Construction and energy-efficient building
- Academia
- Utility management
- State and local government
- Energy development and support services
- Interested citizens
- Nonprofit and nongovernment organizations
- Legal services.

Modeled after the “conversation café” (see <http://www.conversationcafe.org>), a type of small group discussion activity common at large conferences, the Dialogue Diner process entailed having approximately six participants seated at a table with a moderator. (Moderators included Patty Case, Barbara Carey, Richard Beard, Jason Berry, Cathy Hartman, and Edwin Stafford. Sara Baldwin served as the facilitator.) The moderator posed questions to elicit participants’ opinions and discussion, and the moderator recorded responses on poster paper. After 20 minutes of discussion, the Dialogue Diner facilitator directed four of the participants to a new table to interact with another group of individuals and answer a second set of questions. Over the session, participants rotated tables twice to answer three sets of questions. The specific questions and a summary of participant responses are presented below.

1. What energy problems do you think Utah is facing now? What energy opportunities do you think Utah is facing now? (Supplementary Questions: How are current energy issues affecting your business, your community, your state? What do you think Utah’s energy future looks like? What technologies or resources would you like to see developed in Utah?)



Participants noted several challenges facing Utah's current energy situation, most of which stemmed from Utah's over-reliance on coal-fired power generation. About 95% of Utah's electricity comes from coal-fired power plants (Utah Geological Survey 2007). Although coal is currently reliable and has inexpensive direct costs, participants commented that Utah's over-reliance creates several risks, including the likelihood of carbon taxes or constraints that may be imposed by nearby states (e.g., California) or federal legislation. Participants also noted reports of Utah's dwindling coal reserves, which may lead to the importation of coal from Wyoming by railroad.

Another challenge mentioned by participants was the fact that coal-fired power generation is very water-intensive. Given Utah's expected population growth and its susceptibility to periodic droughts, reliance on coal could spark conflicts over water, particularly from the agriculture sector.

Finally, participants noted Utah's growing air quality problems. In sum, a lack of diverse electricity sources poses several risks that could drive up the cost of electricity in the near future.

Participants also stressed, in their opinion, that the state of Utah was not doing enough to address energy issues and that the public was largely apathetic or unaware of energy issues. Consequently, education and outreach is needed to build awareness of Utah's energy situation and of how renewable energy could contribute to the state's future.

2. What would entice you to consider renewable energy options on your farm, home, or business? What are the barriers you see to renewable energy development? What would create a demand for renewable energy? (Supplementary Questions: What factors would have to change for you to consider renewable energy for your home, farm, business? Have any of you thought about or tried to develop renewable energy and if so, what was your experience? Do you think renewable energy is a possibility for you, if there were no barriers? What would help you develop renewable energy?)

To create demand for renewable energy, the participants offered several proposals primarily centered on public policy. Some participants suggested that the state of Utah should establish a renewable energy portfolio (RPS), which would mandate that a certain percentage of Utah's energy come from renewable sources, such as wind, geothermal, solar, and biomass. Others noted, however, that given the state's conservative culture and disdain for government mandates, the likelihood of an RPS was remote.

Another alternative proposal was to implement meaningful tax incentives for renewable energy development. Some participants pointed to a recent KSL/Deseret Morning News poll



indicating that Utah citizens favored renewable energy tax credits and thought Utah should be investing more into renewable energy (Loftin 2007).

Participants also stated that some incentives need to be streamlined or improved. For example, net metering is an important incentive for consumers to invest in renewable energy systems (e.g., solar power), and in 2002, Utah passed net metering legislation that enables Utahns to use their own generation to offset their consumption over a billing period by allowing their electricity meters to turn backward when they generate electricity in excess of their demand. Some participants noted that the current policy restricts the size of projects that qualify for net metering, and this is not conducive for wind power development. Other ideas for supporting renewable energy development included providing technical assistance and education for farm use, renewable energy co-ops, and nontax-based incentives for individuals who do not have a “tax appetite.”

Utah’s ability to develop renewable energy faces a number of barriers. The low direct cost of traditional fossil fuel energy and higher cost for alternative energy were cited as key issues. Interconnection and access to transmission were recognized as other important challenges.

Finally, education was mentioned as essential for convincing citizens and legislators about the viability of renewable energy, the potential employment and economic opportunities posed by its local development, and environmental benefits.

3. What role should the public/private sector play? The state (legislators, regulators, government, agencies, universities), local government, public? (Supplementary Questions: Who is responsible for leading the charge in jumpstarting/promoting renewable energy in Utah? Where have you seen leadership on this issue? Where has leadership been lacking? How can individuals participate and contribute?)

Considering the public sector, participants outlined roles for the different levels of government: local, state, and federal. Most participants believed that the government should lead by example by taking actions, such as setting fleet and building efficiency standards. Additionally, they believed that the government needs to be proactive by conducting research to understand how key Utah industries are impacted by energy; developing a long-term, stable energy policy that supports energy diversification; providing funding and tax incentives for renewables; partnering with the private sector; supplying anemometers for community use; and involving various government entities, such as rural economic development agencies, to advance renewable energy growth in Utah. Participants also stressed the need for government policy that would support the development and use of renewable energy across industry sectors and household income categories in Utah. Finally, they believed that a renewable portfolio standard would be beneficial.



With regard to the private sector, participants noted that, similar to government, business needs to be proactive in embracing renewable energy development. In particular, as participants believe that residential and commercial buildings are major contributors to carbon emission levels, the building industry was singled out as an area where actions, such as training and use of green tags, need to occur.

Participants perceived that decisions made by public utilities about renewable energy are based narrowly on stockholder interests, rather than broadly to consider economic, social, and health issues. The Utah Public Service Commission was seen as a potential agency to support a broader view. For example, legislative action could allow the commission to consider longer-term energy risks and not always choose the current “least-cost” alternative.

Participants also noted the need for educational initiatives for several groups. They believed that schools at all levels need to integrate the study of renewable energy into science programs. They suggested that the general public needs to take a stronger interest in energy issues by educating themselves and contacting public officials to make them aware of their energy preferences and interest in renewable energy.

4. Final Question (for whole group): What are you (audience) going to do to advance renewable energy in Utah/your community/your county? What will you do as a result of what you have learned from today’s discussions? (Supplementary Questions: What are the next steps (both immediate and long-term) for removing barriers to renewable energy development in Utah? Is there an existing forum for making some of these steps happen? How can this group facilitate communication and follow-up to today’s meeting? Are there one or two take-away action items that everyone in this room can commit to doing?)

As a final activity, participants developed an action plan that prioritized a set of tasks that the group could take forward from the information they obtained at the conference. The group concluded that the most important task is to expand the existing Utah Harvesting Renewable Energy Network of contacts to include the participants of the Dialogue Diner session to facilitate renewable energy education, marketing, and outreach initiatives throughout Utah. It was also noted that the Utah Farm Bureau could designate a representative to facilitate the Utah Harvesting Renewable Energy Network in the agricultural community.

With respect to education, participants emphasized the need for everyone in the expanded network to research and share information about renewable energy. To begin, the group recommended that a summary of participant comments be prepared and circulated to capture the ideas discussed in the Dialogue Diner session (this report serves this objective). Another idea suggested was for network members to seek funding to investigate ways in which information about renewable energy might be disseminated throughout Utah. Some specific methods noted by the group included the development of a statewide education program for



elementary through high school levels that included scholarships and other scholastic incentives and the establishment of a renewable energy state fair.

With regard to marketing and outreach, the group recommended ideas for product, pricing, and promotion of renewable energy. Specifically, participants concluded that the consumer benefits of renewable energy, such as public health and safety, need to be emphasized (rather than simply focusing on environmental benefits). Additionally, information about the externalities of nonrenewable sources of electricity (e.g., the effects of a "carbon future") and the economics of renewable energy improvements needs to be communicated to Utahns via mass media and mainstream outreach mediums.

Finally, the group also concluded that renewable energy must be made attractive and affordable to rate payers through economic incentives and green pricing programs, such as locked-in rates. Austin Energy in Texas, for example, offers its "Green Choice" customers a rate that is locked in for 10 years, which is appealing to rate payers who expect fossil-fuel rates to rise. Utah utilities could offer similar rate programs so that the price stability benefit of renewables is provided to end users. Such price stability has the potential to stimulate increased market demand. Finally, the group stressed that everyone must stay proactive to influence public opinion.

Summary Conclusions and Recommendations

Given that many of the "Dialogue Diner" participants have been involved with renewable energy development at the county or state level in Utah, their perspectives provided some valuable insights regarding Utah's energy situation and the challenges ahead. The following summarizes some of the important themes and issues stemming from the session:

Energy Diversity and Policy

- Utah's dependency on coal-fired electricity generation poses several risks to the future (e.g., carbon taxes, dwindling supply, and environmental quality). Without diversification of energy resources, Utahns are vulnerable to rising electricity rates.
- Utah government needs to lead by example (e.g., encouraging energy efficiency, use of renewables) and be proactive on energy policy (e.g., orientation toward mitigating future risk rather than emphasizing "least-cost" solutions).
- Utah government needs to advance policies that include tax incentives and a Renewable Energy Portfolio to encourage development of wind power and other renewable energy sources.
- The Utah legislature needs to modify the Public Service Commission's authority to more fully consider longer-term risk assessment of Utah's energy resources, rather than focus on current "least-cost" alternatives.



- The state's net metering policy needs to be updated to allow for larger energy-generation projects (such as wind power), and interconnection procedures need to be streamlined and simplified to allow for more distributed renewable energy projects.
- Residential and commercial buildings are significant contributors to carbon emissions and warrant attention with regard to efficiency requirements and the use of green tags.

Education

- Policy makers and citizens are largely unaware of or apathetic to energy issues and need to be educated about energy in general and renewable energy in particular; curricula for schools are especially needed.
- Economic development opportunities resulting from wind power and renewable energy need to be communicated to local and state policy makers and citizens; wind power is particularly conducive to rural agricultural communities.
- Health and safety benefits of wind power and renewable energy need to be emphasized over general environmental benefits.

Utilities

- Price stability benefits of wind power need to be offered to rate payers via innovative green pricing programs to encourage demand.
- All of Utah's utility providers, including investor-owned, rural electric co-ops and municipals, need to be more involved in efforts to diversify Utah's energy supply and increase adoption of renewable energy.



Utah Stakeholder Panel Session (February 28, 2007)

The final session of the conference, “Utah Stakeholder Perspectives Panel,” consisted of four speakers representing key groups that are involved with wind energy development, energy generation, or energy policy in the state of Utah. The panel consisted of **Tracy Livingston**, CEO of Wasatch Wind (wind developer); **Richard Campbell**, Chairman of the Utah Public Service Commission (regulator); **Douglas Hunter**, General Manager, Utah Associated Municipal Power Systems (utility); and **Bruce Adams**, County Commissioner, San Juan County, Utah. Dr. Laura Nelson, Energy Advisor for Utah Governor Jon Huntsman, was invited but did not participate. The panel was moderated by Edwin R. Stafford and Cathy L. Hartman, business professors, Utah State University.

Panelists were asked to address the following initial questions for their opening comments and then to respond to questions posed by the moderators and audience.

What role could your organization play in encouraging the commercial development of wind in Utah?

What barriers do you perceive with respect to this development?

What strategies might be effective in overcoming these barriers?

Key comments from each panelist are summarized below.

Tracy Livingston, CEO of Wasatch Wind

Mr. Livingston asserted that wind power development risks need to be reduced to a manageable level for developers, beginning with the creation of a more accurate wind resource map for the state of Utah. For example, the wind resource in Spanish Fork Canyon, now being developed by Wasatch Wind, was not identified on any existing wind resource maps of Utah; yet it is probably one of the best wind pockets in the state. Spanish Fork came to the attention of Wasatch Wind via contact with the owners of a firm doing research on small wind turbines at that location. Small community wind projects could also be facilitated by having more accurate wind resource information and a standardized pricing program that can aid wind developers to determine financial viability of potential projects. Additionally, Utah needs programs that create incentives for wind development, such as those common in other states. He suggested Pennsylvania as a state on which to model. Pennsylvania provides low-interest loans, substantial grants, and incentives for demonstration projects. Finally, more financial support for research and development on wind technology is necessary.



Richard Campbell, Chairman, Utah Public Service Commission

Mr. Campbell described the role that the Public Service Commission (PSC) plays in Utah's energy market and its implications for wind power development. Specifically, wind developers and utilities negotiate the power purchase agreements (PPAs) for wind projects, but the PSC approves the terms and conditions. If there are disagreements, the parties can come to the PSC for resolution. As a regulatory body, the PSC has directed Rocky Mountain Power (then PacifiCorp/Utah Power) in its Integrated Resource Planning to include 1,400 megawatts of renewable energy for its future power resource development within its six-state service territory. More recently, the PSC oversaw PacifiCorp's merger with Mid-American Energy Holdings, which included a commitment to develop more renewable energy.

Inexpensive energy costs from existing coal-fired power plants in Utah represent a key barrier for wind power development. Wind power is still more expensive compared to Utah's dominant energy source, coal. The cost of wind power, however, is becoming more competitive when compared with the development of new thermal resources. For example, the "avoided cost" (defined as the capital and operating costs a Utah utility avoids by purchasing the power for resale from another party instead of building a new thermal power plant) is set at \$57.27 per megawatt hour (MWh) in Utah, and wind developers receive \$57.76 per MWh. Given that developers receive a federal production tax credit of 1.9 cents per kilowatt-hour (kWh) in addition to this price, ultimately wind power is not in any practical sense more expensive than new fossil generation. However, because other states, such as California, have higher energy costs (and higher avoided cost rates), wind developers are likely to look to those states to build generation first. Another key barrier facing wind development, however, is transmission access. When dealing with the Utah State Legislature, Mr. Campbell takes no position on implementing a renewable portfolio standard (RPS). However, he suggests that wind power advocates assess and emphasize the potential economic development opportunities for Utah.

Douglas Hunter, General Manager, Utah Associated Municipal Power Systems

Mr. Hunter opened his talk by describing Utah Associated Municipal Power Systems (UAMPS) as serving 49 municipalities in Utah, Nevada, Arizona, California, Idaho, and New Mexico. UAMPS purchases wind power from the Pleasant Valley Wind Energy project near Evanston, Wyoming, and UAMPS' experience with wind has been positive. Initially, he was reticent about incorporating wind on the UAMPS system, largely because of a lack of experience and knowledge about it. Now that UAMPS has dealt with wind power, however, he would like more. Wind is no harder to integrate and manage on the UAMPS system than small hydropower. With regard to the commonly touted problems of wind power's *supply reliability*, Mr. Hunter pointed out that *demand fluctuations*, sometimes as much as 30 percent in an hour, present a greater challenge for matching supply and demand than wind's variability. The key to UAMPS success with wind power is one that would be common to any integrated system (i.e., a power system has multiple sources of energy that can be used to balance power supply with load).



Wind power from Pleasant Valley was estimated at 33 percent of capacity, but has reached as high as 45 percent at times. Furthermore, its highest production is in the winter when it can be used to offset expensive natural gas purchases that would be used for electricity generation. (In the winter, demand for natural gas is higher because it is used for heat as well as electricity generation.) Wind power is also seen as a potential hedge against high railroad rates, a key cost for transporting coal. UAMPS is planning a coal facility that will be capable of co-generation with wind.

Mr. Hunter stated that barriers facing wind power development are no different than other energy sources. He hears the same litany of problems – costs, transmission, financing – at other meetings for other energy resources he attends. The best way to advance renewable energy is to educate the community and public officials, particularly at city council meetings. City councils for municipal utilities must be advised by users and citizens to determine what kind of electricity their communities want. UAMPS simply supplies the type of energy the municipal utilities demand.

Bruce Adams, County Commissioner, San Juan County

Mr. Adams emphasized that education is central for promoting wind power development in the state. Public and elected officials need to be educated about energy and the concept of an RPS. He supports a renewable energy standard though many of his conservative colleagues may not like the idea of a “government mandate” over the “free market” approach for encouraging renewable energy development. Most states surrounding Utah, including some with conservative state governments, already have RPS legislation in place. Mr. Adams concluded that elected officials who champion energy initiatives can make a difference in the Utah State Legislature and local communities.



Summary Conclusions and Recommendations

The Utah Stakeholder Panel Session proved to be one of the most informative of the conference. While some of the panelists' comments echoed themes mentioned earlier at the conference, each expert brought some novel insights or corrected some common misperceptions about wind power's feasibility for Utah. The following summarizes some important themes and issues resulting from the session:

Information

- Utah needs an improved wind resource map to guide wind developers to the best wind resources and reduce development risk.

Infrastructure

- Transmission access is a key barrier to wind, but it is an issue with any new power source; new transmission should be designed and located to tap Utah's most lucrative wind resources.

Integration

- Managing wind power's variability is not a significant problem on a modern utility system that draws from multiple power sources and is designed to balance supply with fluctuating demand load.

Market Structure

- New wind power costs are competitive with the "avoided cost" rate of new thermal energy development.
- Wind power's price stability should be exploited to become a hedge against the risks posed by volatile natural gas prices and railroad rates charged for transporting coal.

Public Policy

- Utah should create incentives to encourage wind power development.
- Legislation supporting wind power development needs to be championed by conservative legislators and framed as encouraging economic development.

Education

- Education should be directed toward the legislature, utilities, county commissioners, city councils, and citizens about the economic development, energy security, price stability, and quality-of-life opportunities posed by wind power development. (The lack of awareness and misperceptions about wind power inhibit consideration among decision makers).
- City council meetings should be targeted as forums for encouraging municipal utilities to adopt wind power and renewable energy. Citizens need to voice "what kind of power" the municipal utilities should supply to the community.



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