Draft

Wind Power in the Southwest

March 14, 2011 Workshop Proceedings

Wind Powering America Regional Meeting

This document represents to the best of the coordinators ability a summary of the notes and discussions that took place at the meeting. The document is designed as a review draft to allow comments or corrections from those who attended the meeting or those who were not able to attend. Comments to this document are encouraged and to the extent applicable and appropriate, will be incorporated into the final document.

U.S. DEPARTMENT OF ENERGY

WIND POWERING AMERICA

Wind Power in the Southwest:
March 14, 2011 Workshop Proceedings

Wind Powering America Regional Meeting

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Summary

On March 14, 2011, Wind Powering America held an all-day meeting with participants from Southwestern states to identify persistent deployment barriers, prioritize these barriers, and highlight successful approaches to address the barriers identified. Participants represented industry, state government, non-profit organizations, and regional partnership interests from Arizona, California, Colorado, Nevada, and Utah.

Through these discussions, the top barriers identified included:

- Funds for Outreach & Education (17% of the votes)
- Funds for Stakeholder Engagement and Education (16% of the votes)
- Difficulty working on Federal Lands(14% of the votes)
- Utility Integration Issues (14% of the votes)
- Transmission (13% of the votes)

For each significant issue, workshop participants identified solutions appropriate to the Southwest region. This meeting provided an opportunity for Wind Powering America staff, State Wind Working Group (WWG) members, and other participants to discuss issues encountered in Southwestern states and begin to identify strategies to overcoming these barriers using a coordinated, regional approach.

This document represents a summary of the meeting and specific discussion of the key barriers. This draft document will be made available for review and comment by those that were not able to attend the meeting in person. A final document will be made available on the WPA website.

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Introduction

Wind Powering America's mission is to educate, engage, and enable critical stakeholders to make informed decisions about how wind energy contributes to the U.S. electricity supply and local economy. For the past 10 years, WPA has supported education and stakeholder engagement activities through a combination of technical assistance, funding for direct engagement, the production of informational resources and implementation of collaboration opportunities, primarily at the state level. These activities have helped the wind industry move from a small boutique market of just over 2,000 MW in 2000 in a few states to over 40,000 MW at the end of 2010 covering much of the nation.

Through the later part of the decade, the U.S. Department of Energy's Wind and Water Power Program (WWPP) and Wind Powering America (WPA) conducted a dedicated effort to support the appropriate deployment of wind technologies through the expansion of state based Wind Working Groups (WWG) by providing funding for 3-year priority state activities and similar federal funding for medium- and low-priority states. This was combined with the implementation of regional activities through the development of the Regional Wind Energy Institutes and the support of other regionally based stakeholder groups. Following an effort to determine how WPA can be most effective in helping the Nation move towards a future as outlined in the *20% Wind Energy by 2030* report, WPA investments in priority states will transition into a more regional focus, increasing intra-state coordination and strategic planning. This regional approach is intended to maintain and build on the existing state-level WWG networks and promote information sharing between regions in similar circumstances.

With the current round of state based activities coming to a close in late 2010, the desire to support the request for more regional engagement expressed at the 2009 WPA All States Summit and a planned transition to more regional focused activities, WPA hosted a series of 1-day regional meetings at strategic locations around the country. Locations were chosen based on regional diversity and the unique characteristics of the region, but were not meant to define the makeup of the region. State representatives, Wind Working Group members, and other interested stakeholders from every region were invited to attend and share experiences. These events will assist Wind Powering America staff and participants to identify persistent deployment barriers, prioritize these barriers, and highlight successful approaches to address the barriers identified. Meetings were held in the following locations over a three week period in the spring of 2011:

Southwest: Las Vegas, Nevada – March 14

Mid-Atlantic: Arlington, Virginia – March 16

Great Lakes: Ann Arbor, Michigan – March 18

Northeast: Boston, Massachusetts – March 22

Northwest: Richland, Washington – March 25

Great Plains: Lincoln, Nebraska – March 29

The meetings allowed wind stakeholders from each region to meet and discuss approaches to address the most urgent market barriers, learn from experiences in other states, and help build regional collaboration. Wind Powering America will also use the meeting results to help plan the Wind Powering America Annual All-States Summit and future program activities.

Each meeting was initiated with a report on the wind market of each state in attendance, addressing the following basic questions:

- Current state installed capacity
- What type of installations are being considered (distributed, community, utility, offshore)
- What were the barriers to deployment that have been successfully addressed
- What general methods were used to successfully address those barriers
- What key barriers remain
- What is the policy of the state regarding the deployment of wind
- What state financing opportunities are there to support continued WWG activities

Through these discussions, current barriers to wind deployment were identified and then a voting process was used to identify the most urgent barriers. Participants then broken into breakout sessions to discuss these barriers, identifying the key elements of the barrier, what approaches have been used nationally to help address specific aspects of this barrier and then what approaches could be used to help address the specific barrier in this region. Following a report from each breakout group, general discussions addressed the remaining barriers and identified the challenges that the WWG network may experience during the planned transition to a stronger regional approach for national wind stakeholder engagement. The discussions during the workshop were meant to identify barriers and their possible solutions, but not how to implement the solutions discussed. The workshop agenda is included in Appendix A. This report provides an overview of the meeting held on March 14th in Las Vegas, Nevada to address issues in the Southwest Region. The participant list for this meeting is included in Appendix B.

It is understood that not all of the relevant stakeholders were able to attend the meeting so as to allow for expanded input this document is a review draft, with comments and further input requested. A feedback form has been provided in Appendix D and is also available on the WPA Regional Meeting website. Comments should be sent to Corrie Christol (corrie.christol@nrel.gov; fax: 303-384-7097) and to the extent applicable and appropriate, will be incorporated into the final document which will be released shortly. In some cases parts of this summary were authored by specific attendees, summarizing the work of the breakout sessions, in these cases the author has been identified.

The Southwest Region

Arizona, California, Colorado, Nevada, New Mexico and Utah are states in the Southwest Region. In terms of U.S. markets, states in the Southwest region could be considered maturing, with significant potential, but still containing several markets that have not built up enough momentum to transition to full scale deployment.

Arizona

Update given by Bill Auberle and Karan English, Northern Arizona University; Amanda Ormond, The Ormond Group

Northern Arizona University (NAU) has been working with Wind Powering America for 10 years. Along with Amanda Ormond and other wind stakeholders, they have started the Arizona Wind Working Group (WWG), and in 2010 became the location for the Wind for Schools program. Arizona is one of the Wind Powering America High Priority states.

The state of Arizona currently has 228 megawatts (MW) of wind installed or under construction. The installed capacity is made up of a variety of projects including distributed, community, and utility-scale installations as well as a municipal-owned wind project. There is a community wind project installed in Kingman, a municipal wind project and four utility scale projects at various stages of operation.

One of the major barriers to wind energy development in Arizona, as reported by NAU, is the idea that many in Arizona hold, that "Arizona has no wind", that it isn't competitive or cost effective. Because these ideas are so widespread, there is no support from the state to support wind energy development in Arizona. The legislature has no interest in funding the Arizona Wind Working Group (AzWWG) or other programs that educate people, assist with wind installations, or provide incentives for building wind turbines. The only state assistance that NAU has received was a small portion, 6/10 of 1C, of tax funded education money that has been put towards the development of a renewable energy center.

In spite of these legislative conditions, NAU has become a central location for unbiased, technical information on wind energy and is reaching out to its citizens with many educational opportunities. The Arizona Wind Working Group is based out of NAU as is the Wind for Schools program. They provide valuable information to schools, ranchers, tribes, developers, county officials and others interested in learning more about renewable energy.

NAU's role as a source for information on wind energy helped lead to the first utility-scale wind energy project in Arizona. A Navajo County rancher first started working with NAU to collect wind data on his property. His research led him to contact Iberdrola Renewables, which later resulted in the development of the Dry Lake Wind Project. The project consists of 30 turbines spread across a combination of private, state and Bureau of Land Management (BLM) land. The project went online in 2009.

Another challenge to wind development that was reported, is finding ways to help interested tribes implement alternative sources of energy on their land. Five of Arizona's twenty-two tribal nations are interested in learning how they can develop their own energy and build economic development. They want to educate and train their members so that they don't have to hire consultants and can increase the number of jobs available to their people. In response to this need, NAU has started a project in the 4 corners region comprised of tribal members, the university and consortiums and looks to tie renewable energy together with economic development options based on Navajo & Hopi tribal needs.

The lack of regulatory guidance for county officials is another barrier to developing wind energy in Arizona. Because developing wind energy in Arizona is so new, there is no wind ordinance and no

guidelines for county officials to reference when permitting projects. In Navajo County, NAU and the AzWWG were able to help educate officials so that they could develop a wind ordinance. Although this was successful and Phase 2 of the Dry Lake Wind Project is permitted and almost completely built, this process is done on a county by county basis. Other counties can look to Navajo County as an example, but will still need the education and information to develop their own ordinances.

One barrier that has recently been successfully addressed is an aspect of the view shed. Because so much of the area where wind turbines are being installed in Arizona isn't lit at night, people who live in the area don't want to see the lights on top of turbines that are required by the FAA. Developers at the Perrin Ranch Wind Energy Center are installing radar activated lighting on top of the turbine towers. Once these lights are approved by the FAA, the tower lights will only light up when an airplane is detected in the area.

Not all barriers to developing wind in Arizona have been successfully addressed. Recent interactions between developers and ranchers and tribes have almost caused the failure of projects to proceed. There seems to be a disconnect between some developer's assumptions about how a potential project will be perceived and the family ranching community's values that creates distrust between the parties.

Other obstacles in Arizona include interconnection issues, transmission and jurisdictional barriers. Because these issues are large and there are so many parties involved, it has been difficult for those interested in developing wind to find consistency. There is a lack of consistency on many levels whether dealing with counties, utilities or trying to work on private, federal or tribal lands.

Developing wind in Arizona is a process that is currently hindered by many barriers. Without the support of the state and other entities, these barriers will be much more difficult to overcome.

California

Update given by Grace Anderson, Western Electricity Coordinating Council (WECC)

The current installed capacity as of year end 2010 was 3,177MW in California. Utilities have helped California achieve this by aggressively pursuing their 20% by 2010 target. California adopted a 33% by 2020 RPS and is working to build the necessary transmission to achieve this RPS.

Distributed and utility scale wind installations are primarily being considered in California. In order to achieve the Clean Energy Jobs Plan of 20,000 MW by 2020, 12,000 MW needs to come from distributed wind projects. The newly elected Governor wants to explore distributed wind as much as utility wind. He is looking for a wide variety of installation opportunities including state properties, schools, rooftops and parking lots.

In order to meet these goals and RPS, there is a need for additional and integrated transmission. CA ISO has a new FERC transmission planning process and a feed-in tariff program that would allow for public policy goals to be included in the planning and for paying for transmission investments. This way projects can be built while not worrying about being approved by FERC. Plans will go to a board of directors but contain a transmission plan to obtain more than 33% of energy from RE sources using in-

state, out of state and distributed generation (using a wide definition). They expect to have a specific policy within 30-60 days.

At a regional level, Western Interconnect, there has been a watershed change in regional planning. The Western Governors Association (WGA) & WECC have received funding for transmission expansion planning. They are working on 10- and 20-year plans. In order to bring in more dimension and interests to the table, they are funding NGOs to represent, do work & participate in the transmission planning process. For state interests, they are trying to get states to participate in the State/Provincial Steering Committee (SPSC) that would provide input into the regional transmission planning process. The SPSC is studying interconnection to find congestions. Their focus is on integrated renewables and will study futures that include a large amount of wind in addition to other resources. The SPSC brings together many views of transmission planning & stakeholder interests and hopes to provide a consensus-based plan with a roadmap to see where congestion is and how to build transmission to meet RPS goals.

Although California is one of the states in the U.S with the most installed capacity, there are still barriers it is working to address. Some of these barriers include participating in competitive procurement processes, providing objective & comprehensive evaluation of remote vs. local resources and navigating the conflict of states seeking to develop energy locally vs. remotely. Transmission is a key issue that requires integration at regional level. Renewables are being built in locations that are removed from the load center. There is a need to better characterize the challenges that are being faced and to move quickly on solutions.

Colorado

Update given by Tom Potter, All American Energy

As of year end 2010, Colorado had 1300 MW installed. That number is expected to rise in 2011 as an RFP for another 800 MW is out. These installations are comprised primarily of distributed and utility scale wind projects.

Although there are four new distributors active in the state and good small wind incentives, small wind installations aren't what wind advocates had hoped. Even so, the WPA Wind for Schools program has helped install eight turbines, seven in the last eighteen months and one more is being sited. With cost-sharing from the Governor's Energy office, 10 more Skystream installations are anticipated in the next year.

Utility scale wind will continue to be a big contributor to Colorado's renewable energy portfolio. With one of the most progressive Renewable Portfolio Standards (RPS) in the nation, Colorado residents voted that 30% of their energy should come from renewable sources by 2020. Not only do Colorado residents support the development of wind energy, the utilities are also pursuing wind. Both Xcel Energy and Tri-State G&T have put out RFPs for wind.

Barriers to developing wind in Colorado depend on the size of wind turbine being installed. For small wind, a lack of familiarity and visible examples of small wind, a lack of incentives, zoning and height restrictions and rural utility apathy or resistance towards wind have been barriers to small wind

installations. Also, problems with small wind turbines failing, have contributed to hesitation in pursuing wind. With community wind, the poor economic climate is a hindrance to community wind projects. An investor model might work, but there are no successful examples. Additionally, utility rate structure discourages the kind of mid-scale buy-back that would encourage community wind development.

Utility scale wind has a different set of barriers. Investor Owned Utilities (IOUs) have satisfied their Renewable Energy Credits (RECs) requirements and are selling them to California. Xcel Energy says they want to be in the wind business but without new requirements or an increase in the value of RECs, they may not continue to build wind turbines. Some non-IOUs are remaining resistant to installing wind by purchasing RECs from other entities or investing in other renewable energies. They want to see a strong public demand, regulatory authority and direct economic opportunity. Other barriers to utility scale wind including pancaking rates (the layering of charges as power is transferred across multiple control areas), availability of transmission capacity to load, the poor economy and political conditions such as off- and on-again federal incentives, all hinder investment in and development of wind energy.

Some of these barriers have been successfully addressed. There are now good examples of small wind throughout the state, especially where Wind for Schools turbines have been installed. These projects involved the community in their development and most community members and involved institutions have a positive view of wind power. In Northeastern Colorado, a series of five workshops reached over 200 people, raising consciousness and support for wind.

Utility-scale wind didn't used to be as well supported by some of the utilities as it is now. Prior to Amendment 37, Xcel Energy and Public Service Company of Colorado (PSCo) didn't think that its customers would pay a premium for renewable energy. There are now 41,000 participants in their premium program. Additionally, the adoption of Amendment 37 to the Colorado state constitution showed the utilities that the citizens of Colorado support renewable energy and that there is public demand.

Other ways to address the small wind barriers would be to proactively address zoning with templates and local champions, develop informational items about wind at different scales that can be distributed at wind events or when there is wind project news, use Wind for Schools and other methods to install wind turbines in many locations, giving people positive examples of wind turbines in use.

Further ways to support utility-scale wind development would be a rigorous analysis of benefits and the documentation of citizen intent. Utilities could be transformed into wind advocates with improved information addressing their business concerns and templates showing the benefit they receive from installing wind turbines. Document models of what has worked in other places could reduce the impedance of pancaking rates. Additionally, the development and dissemination of benefits stories could bring about more support for wind energy.

In general, wind energy is supported by Coloradans. At the state level, the past governor talked about his vision of a "New Energy Economy" for Colorado. There are currently five Vestas plants in the state and many supporters of wind development that will keep these workers employed. Communities,

County Commissioners and utility boards of directors are seeing the positive economic impact of jobs and economic activity from wind energy in their area and in turn, becoming wind power supporters.

Nevada

Update given by Jeneane Harter

The state of Nevada currently has less than 1MW of installed wind capacity as of yearend 2010. There are projects that are in various stages of the development progress that could add more than 900MW over the next few years. Both distributed and utility scale wind projects will contribute to the increased capacity. The Wind Generations Program has been a major driver for distributed wind. There are no community wind projects planned at this time.

The increase from 1MW to over 900MW is in part being pushed by the aggressive RPS of 25% renewables/efficiency by 2025 and the tax abatements program that Nevada has adopted. The Wind Generations Program has been a major driver for the increase in distributed wind. The program had a goal of installing 5MW. After a series of workshops, a WWG rural road show, a small wind conference and targeted outreach efforts, the program saw a huge increase in applications. They received applications for 11MW in just 3 weeks. Other factors in this increase of wind energy installations in Nevada are the successful resolution of some major barriers.

Market access and siting and permitting have had some successful resolutions. To address the market access barriers, Jeneane Harter and the NV WWG worked closely with the Governor's Renewable Energy Transmission Access Advisory Committee to identify the most viable areas for wind development and the transmission necessary to access the wind resource in those areas. The resulting report both informs and serves as a baseline for future Nevada transmission policy and legislative decisions in the west. Engagement with the Codes and Ordinance Committee resulted in the adoption of codes and ordinances in Carson City and Washoe County that has resolved some siting and permitting issues. These are now serving as a model for other cities and counties to adopt.

Although good progress towards increasing wind development in Nevada is being made, there are still a number of challenges that need to be tackled. Some of those challenges include ordinances, land management and environmental issues, transmission, the need for more research and development (R&D), workforce training, infrastructure, public policy, wildlife, air space and military mission training.

The state of Nevada has enacted some good policies toward wind deployment in Nevada. The development of the Governor's Renewable Energy Transmission Access Advisory Committee report, the establishment of the tax abatement and wind incentive programs and the increase of net metering from 1 to 5% has helped to increase wind development. There are currently bills before the Legislature that would revise the tax abatement program, increase net metering, enable eminent domain on federal lands, include rural co-ops in the RPS, and increase the capacity of the Wind Generations program. Other policies, such as the authorization of cities and counties to include location and appearance as "reasonable restrictions", and the end of a wind incentive program, are hindering wind development in Nevada.

To date, outreach efforts in Nevada have been funded by DOE and Wind Powering America. With the state of Nevada billions of dollars in the red, there are no plans or capacity for the state to financially support continuing WWG activities.

New Mexico

No representative from New Mexico attended a Regional Meeting – more information on the state will be provided in a later draft.

Utah

Update given by Sara Baldwin, Utah Clean Energy

Since 2007, the state of Utah has gone from 1 MW of wind capacity installed in the state to 225 MW of installed wind energy. These 225 MWs consist of three utility scale wind farms and a number of distributed wind energy projects. More distributed and utility scale wind projects, including those planned across state lines, are in the queue. There has been no real interest in developing community wind projects.

The Utah Wind Power Campaign, facilitated by Utah Clean Energy and the Utah State Energy Program, in coordination with the State Wind Outreach Team and members of the Utah Wind Working Group and support for the Wind Powering America program, has worked to successfully address a number of barriers. They have provided information, outreach, and education that have helped keep the community of citizens, businesses, developers, and governments informed and up to date on critical wind energy events, activities, and action items. Outreach and education has also played an important role in the adoption of wind-friendly policies such as the Production Tax Credit for large wind, an investment tax credit for small wind, net metering and interconnection standards and policies, and the development of a renewable energy ordinance.

Through the use of experts, consulting with national labs and education by the Utah Wind Power Campaign, a Model Wind Ordinance was finalized in early 2010. The model is a tool for local governments across the state to use when adopting wind ordinances. Many counties have adopted this model, but others are choosing bad wind ordinances that impede wind development. National labs have also been useful in providing technical assistance and expert testimony on core wind energy issues to utility regulators. The coordination of information for wind developers and stakeholders and the changes made in net metering and interconnection has earned Utah an ‘A’ in the Freeing the Grid report.

Other programs such as the Wind for Schools program and the Utah Anemometer Loan Program have helped to advance wind energy development in Utah. With the establishment of two Wind for Schools turbines, wind energy curriculum and education is being incorporated throughout the school districts. The Anemometer Loan Program has provided valuable information to interested parties and helped to further define Utah’s wind resources.

Although Utah has made great progress in increasing wind development, there continue to be barriers that need to be addressed. One of the major barriers is the many myths of wind energy. There is a great need for education to Utah's local governments, utilities, regulatory officials, Governor, Legislature, elected officials, citizens, businesses and communities to dispel these misconceptions. Other barriers that pose a challenge to wind development in Utah include transmission, the inadequacy of the UT renewable energy goal, restrictive wind ordinances and environmental groups.

With the facilitation of conversations and education provided by Utah Clean Energy to landowners, utilities and decision makers, policy is being worked out. Additional outreach and education to the state could provide more favorable policies supporting wind development in Utah. The state of Utah doesn't currently have financing opportunities to continue WWG activities. Without dedicated funding, Utah's education and outreach efforts will be unable to continue.

Western Area Power Administration (WAPA)

Update provided by Randy Manion, WAPA

WAPA is currently dealing with the challenges presented by the present economic situation. Because of significant financial stress, WAPA is being forced to downsize. Without necessary resources, WAPA personnel are unable to get to renewable energy events and fully engage with utility leaders. They are able to provide partial travel scholarships so that people can attend meetings, AWEA conferences and award ceremonies. A presence at these types of events is very important to WAPA's mission.

Besides economic challenges, other barriers that WAPA faces deal with efforts to establish leaders within utilities as well as training and educating planners and operators, providing resources and tools, and integrating renewables. Additional issues include cost of wind, integration, variances and operation maintenance.

Transmission and its associated issues are a major focus of activities at WAPA. WAPA is working to operate, maintain and expand the grid to meet current and future needs. Existing transmission lines need to be upgraded and expanded to deal with load demands, renewable generating resources, and the discrepancy between load location and generation. To help ensure a robust grid and the inclusion of renewable generation sources, WAPA suggested that more detailed grid models be developed to provide accurate simulations to use to inform transmission plans. Other possible solutions are the establishment of operation rules for grid operators and education.

Barriers and Opportunities

Based on updates provided by representatives from states, workshop participants identified major barriers to the wind industry to be education to the public and environmental organizations, funding for outreach and education, education on utility integration issues, difficulty working on federal lands, and transmission. Workshop participants broke into four small groups focused on these barriers and worked to identify the elements or aspects of each issue and potential solutions, especially solutions appropriate to the region. Transmission was discussed in the larger group with other barriers that were identified. A list of all of the barriers identified is included in Appendix C.

Funds for Outreach and Education

Summary provided by Jeneane Harter and Sara Baldwin

As nascent industries mature, the support or opposition they receive from the general public and the environmental community has a direct correlation to the long-term success and viability of the industry. Negative attitudes about industries can develop well in advance of any proposed projects if communities have not had the opportunity to get factual and unbiased information regarding the industry.

The wind industry is maturing in the region rapidly and wind projects are receiving increasing attention from the environmental community and the general public. Unfortunately, not all of this attention is being channeled into support for the industry. While some communities and states embrace wind power as a powerful economic development tool and symbol of energy independence, concerns and misconceptions about wind energy still abound among key stakeholder groups, including citizens, media, utilities, local governments, and local communities. The need for on the ground education and stakeholder engagement is ever-present as the wind industry continues to grow and develop. Pro-active education is needed to lay a solid foundation of understanding of wind energy and dispel common myths and misconceptions; additionally, re-active education is needed to address issues and concerns that arise in response to specific projects and/or proposed developments. Both approaches are key to the long-term success of the wind industry.

In addition, the environmental community can heavily influence public opinion, so it is imperative to proactively address the concerns and issues raised by the environmental community. A coordinated, multi-layered, regional engagement program to both the environmental community and the general public will help foster continued growth in the wind industry and prevent significant backlash or inappropriately negative perceptions about wind from taking hold in communities across the region and country.

Regional Aspects:

Environmental issues are often regional issues, and they may not adhere to state boundaries. As a result, the environmental community is largely built around multi-state eco-regions. Correspondingly, public issues are also largely regional. For instance, water is an important issue to people living in the desert southwest but not as high of a priority to people living in more water rich regions like the mid and southwest.

Each eco-region has its own unique topography. The topography (and other factors) contained within these eco-regions affect the regions' wind resources. Wind developers "mine" these regional resources to create wind projects. As a result, wind developers often focus their project efforts across multiple states.

The media has a tremendous influence on public opinion, and media also has a regional element.

That stated, each state within a region can be vastly different from one another, in terms of politics, culture, regulations, utility framework, land uses (and land ownership), and dominant ideology. As such, within each region, the need for state specific outreach efforts and support is absolutely critical to addressing the range of issues that arise.

Regional Solutions:

Given the convergence of the aforementioned regional aspects, a regional communication effort will help effectively foster acceptance and understanding of the wind industry and lead to more successful projects. To succeed the effort should consider the following best practices:

- Identification of the target audiences and the development of audience database by state and by region (noting congruence wherever possible)
- Identification of all the media utilized by the audiences with a special focus on social media
- Development of the communication channels, processes and messengers necessary to reach the media with a special emphasis on internet videos
- Development of the key messages to be delivered by the messengers via the processes and channels with a special emphasis on weekly talking points
- Technical support to assist in the development and delivery of the messages (Wind Powering America staff have traditionally provided this key element)
- A process for monitoring the messages as they travel through the communication channels; generally a media monitoring service
- A process for adjusting messages that did not travel through the channels intact; generally an analysis of the monitored media followed by an iteration of the messages

This process creates a two-way engagement and education campaign that is both pro-active and re-active. When built on a regional level, it allows for messages to be developed that are:

- Based on the common environment
- Coordinated across states
- Consistent across states, thereby creating a regional movement that delivers targeted and consistent messaging and information (which will help minimize confusion and information overload)

Message consistency is key in any education effort. Messages that are not consistent are not absorbed and adopted by any public. Messages cannot be consistent unless they are coordinated.

To achieve any degree of success, it is absolutely critical that the messages and the messengers are:

- Verifiable
    - People may not readily internalize or adopt messages that are not verifiable.
- Trusted
    - People generally do not adopt information from sources they do not trust
- Accurate

    - People generally do not adopt information they believe is not accurate
- Have integrity
    - The media will not pass on information they do not believe comes from sources that do not have integrity

Developing a regional stakeholder engagement program that incorporates the best practices outlined above would require the following elements:

- The identification of the region to be served and the states and local jurisdictions within the region. Potential regions include the Great Basin with its unique mountain and range topography and/or the larger Southwest in general.
- The identification of an existing regional organization that has credibility with both the environmental community and the general public: The Western Governors' Association (WGA) is one such example. This organization represents one of the most trusted organizations in the west.
- The creation of a regional entity to act as the outreach program manager. This entity develops and executes the campaign and reports to WPA and the WGA.
- The identification of trusted, non-biased, third-party state and local entities that would work with the regional entity to deliver consistent, coordinated messages, such as State Energy Offices and State-based Clean Energy Advocacy Organizations. These organizations have credibility and just as importantly existing outreach programs that could be expanded to include the regional messages. They also have existing outreach media channels that could be leveraged. The state entities work with the regional entity to deliver the pro-active messages which are monitored and adjusted by the regional entity.

Regional Partnerships:

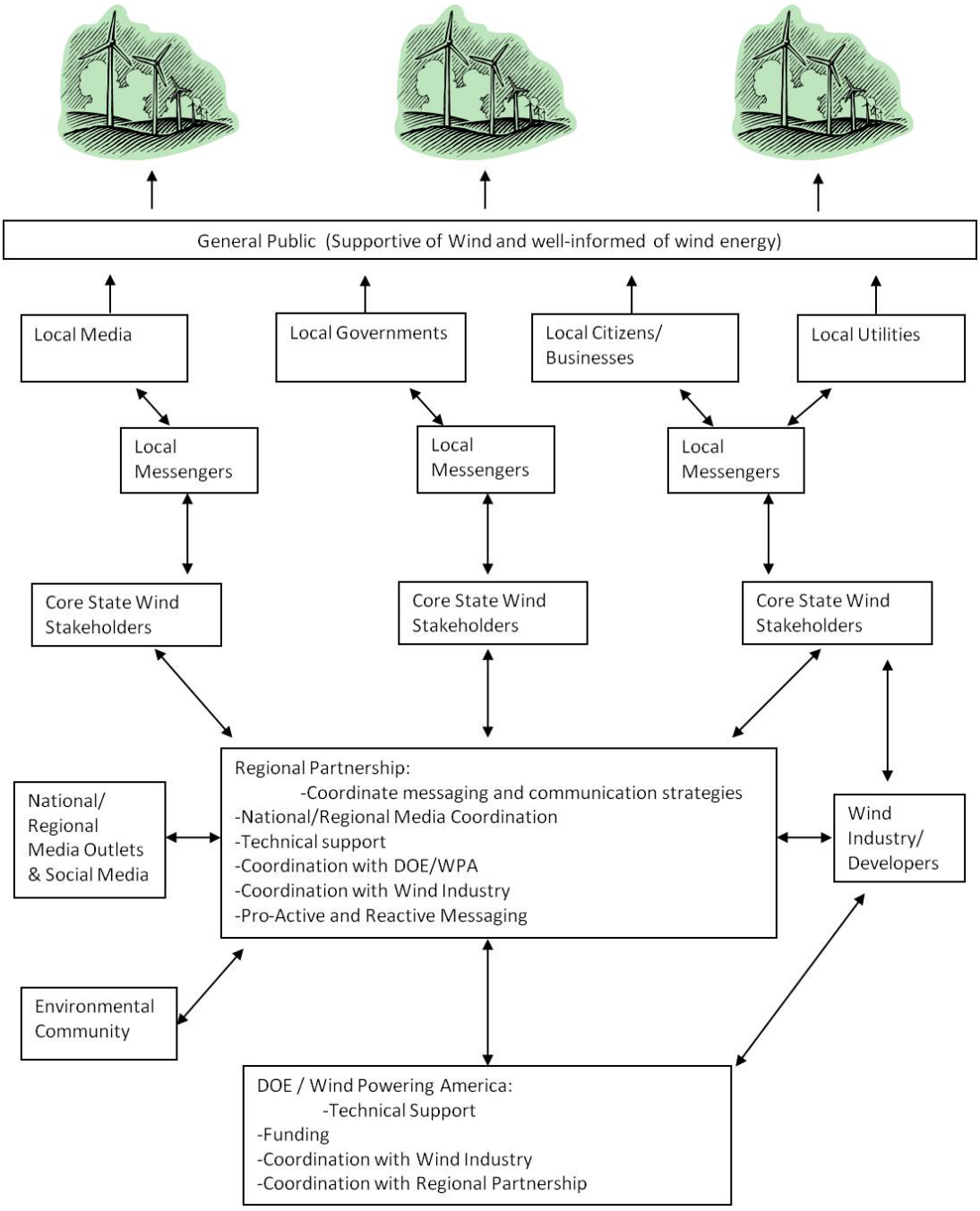
The successful implementation of this outreach program will depend upon the partnerships developed to execute it. As a result they must be chosen with extreme care. From an execution standpoint potential partners could include:

- Wind Powering America
- Western Governors' Association
- State Energy Offices and state entities already supported by Wind Powering America
- State Wind Working Groups
- Policymakers within state and local jurisdictions
- State educational institutions, research and development institutions and wind workforce training organizations
- Agricultural groups, e.g. State Farm Bureaus
- Environmental groups
- Land managers
- Outdoor sports organizations

Additional regional entities that could support the program, but would not necessarily play a highly visible role include:

- Wind developers active in the region
- Wind industry associations active in the region
- Wind media

The following illustration demonstrates how a regional partnership will function in the context of state, local, and federal communication on wind energy.



Funds for Stakeholder Engagement and Education

Because much of the southwest still does not have a well developed wind market as compared to many other regions, funding for stakeholder engagement and education is of very limited supply. Typically state agencies have limited interest in wind deployment. RPSs, if in place, are weak due to the reluctance of populations and legislators interested in mandating the deployment of wind technologies, and there is limited demonstrated industry base to leverage for wider general support. For all these reasons, the funding of needed stakeholder engagement and education is seen as a large barrier, specifically as federal funding to support state and regional activities is reduced. The following report was provided by Bonnie Christiansen.

Aspects of the issue:

- If there is no funding there will be no stakeholder engagement and educational programs, individuals and organizations working on these issues will move on to other work which is funded.
    - Without active stakeholder engagement the void of factual information will be filled by mis- (or in the worst case scenario mal-) information
    - Education is important for raising awareness
    - Image advertizing/education
- The wind industry is a new, and competitive market
    - Unlike the fossil fuel industry, the wind industry is a new industry that has not yet formed an alliance to market itself as a whole. One non-profit in the group has attempted to secure funding from the largest developer in the state, but was informed that there would be no funding support as the company believed that funding of the non-profit would “enable other developers” to take advantage of the work accomplished.
- A credible messenger/message:
    - If Industry funds stakeholder engagement the message is more suspect/and not seen lacking objectiveness. When we say we are federally funded through a national laboratory the education we provide is seen to be unbiased and more reliable.
    - Industry funding ”taints” educational messages.
- A diversified funding group would restore objectivity and communicate to a broader stakeholder/beneficiary group. Some potential funders include:
    - Private citizens
    - Utilities
    - Governments
    - Wind industry
    - Foundations
    - Advocacy organizations
    - Tribes
    - Unions
    - Foreign investment

- Outdoor industry (to improve green imaging)

- A long standing supporter of wind energy has been the 'green movement', but the Nature Conservancy and other environmental organizations are starting to discuss wind development and other renewable energy systems in terms of "energy sprawl". If this issue is not quickly discussed and addressed across the country, wind energy's best supporter could become its downfall. The green movement could follow the environmental lead, and many of the potential funders listed above, in this case scenario would not be available.
- It takes money to raise money:
  - Raising funds takes employee time and effort, and incoming funding takes time to develop.
- One method to raise funds would be by passing state referendums.
- WPA partners would like to know the amount of funds distributed currently, as to gain an understanding of current budget needs.
- There is a concern among some states about the regional approach, and if there would be equal sharing of funds among the state, or if divided unequally, on what basis would this division be made.

Solutions:

- Potential avenues for funding stakeholder engagement and education:
  - Develop new funding strategies from the potential funder list above
  - New taxes to fund wind energy development, though not a likely option
  - Seeking funding from the SEP (pollution fines) to support educational work
  - Add a systems benefit charge on utility bill
  - Seek multiple funding sources to leverage funding
  - AWEA
  - Department of Education /Commerce
  - Seek funders which have a vested interest in benefits wind energy brings to specific eco-systems (water) or who do not want to see other types of energy developed (nuclear).
- Energy Efficiency – reducing use
- Overall WPA WWG group discussed who was a trusted messenger as it is important in seeking funding. Some believed that the industry was a trusted messenger (mostly WPA staff), and others that the government was a more trusted messenger. **As the group was unresolved on this issue it was suggested that the DOE do some polling to determine the public trust level for a industry funded or government funded educational campaign.** This will inform how to continue to fund wind energy outreach and education.

How to Regionally Address Funding for stakeholder engagement and Education:

- Solicit money from regionally conscious funders
- Refer to the regions ecosystem as a unifying force/Consistently image the regions' ecosystem
- Regionally addressing the issues imply the use of an umbrella group
  - Do we use an existing group or form a new group

- Combined advocacy of states to seek funds
- Convene group meetings twice per year, and hold monthly calls to coordinate regionally

Difficulty working on Federal Lands

Summary provided by Rich Hamilton

With the very large amount of lands under federal control in the west, over 80% in the case of Nevada, most large-scale wind development will requiring either access to or transmission across federal lands. For these reasons, working with federal land managers, typically the BLM in the west, is a requirement, but also a time-consuming and difficult process which has slowed wind development across the west.

Issues

1) Consistency between BLM/land management offices
    a) NEPA, T&E species
    b) Different culture and interpretation of policy between offices
    c) Inter agency collaboration
2) Transmission
    a) Difficulty permitting
    b) Differing ruling in different but similar locations
3) Tribal Lands
    a) Each is sovereign
    b) Leadership changes frequently
    c) Few are economically viable
    d) Dealing with BIA plus tribes = two entities requiring approval

Solutions

1) Regionally addressing Federal Lands
    a) Mitigation banks able to address eco-regional issues instead of within a specific office
    b) Regional workshops/trainings with agencies, developers, NGO's and environmental consultants
        - Share information regarding solutions found in different locations
        - Training agency staff on technologies and impacts
        - Educating developers on NEPA and other constraints agencies have in permitting projects
        - Involve state and local agencies with permitting authority
        - Involve NGO's, AWEA, DOE/NREL as resources
2) Regional Databases
    c) Studies
    d) Environmental Impact Statements (EISs)/Environmental Assessments (EAs)
    e) Mitigation strategies

f) Solicit NGO's and private entities to share information

3) Tribal Inclusion-Invitation
   a) Probably too large an issue for state WPA groups to work on
   b) Tribes need to be involved in the process earlier
   c) Tribes may be potential stake holders on 1b activities

Utility Integration Issues

Summary provided by Amanda Ormond

The group discussed the fact that integration issues cover a myriad of topics and it is of utmost concern to utilities. The group felt that while WPA funded people can provide fundamentals on integration issues it is too much to expect that they would be expert enough in the technical issues to contribute significantly on this issue in their states. The group identified three main areas of support; WPA state people should understand how to counter the basic arguments raised about integration costs, the defined need for one-to-one back up by energy professions identified by the program or through other partner organizations like UWIG, and the need to equip state engagement individuals with NREL materials on current studies about integration costs. Specific comments collected during the discussion include:

<u>Problem</u>

- Decentralized nature of the West. Need to work BA by BA (utility by utility) on integration issues.
- Utilities resist wind in part because it is a change from what they know.
- Utilities are risk averse.
- Assumptions in integrating cost studies will greatly affect outcomes.
- Lack of utility resources and competing priorities affect how much time utilities can devote to understanding and accepting wind.
- WECC needs to show leadership because they are the only existing regional entity.

<u>Solutions that are outside WPA's Purview</u>

- Modify the existing law that utilities submit an Integrated Resource Plan to the Power Marketing Agency (PMA) (Western) and require that they participate in a regional IRP developed by a PMA.
- Create a west-wide power planning council like NWPCC (think tank for planning) that could assist in utility, state and regional integration issues.
- Complete the second tier of study work resulting from the Western Wind and Solar Integration Study.
- Educate utilities and PUCs on the role that wind can play in the national energy portfolio.

<u>Regional Center Ideas</u>

- Provide training on integration and other technical issues, to WPA state and regional partners to make them more effective.

- Work with PSERC (power system engineering research center universities) to create and deliver training to operators on wind integration issues.
- Encourage more universities to join PSERC to be able to provide training to more individuals.
- Encourage each utility to conduct wind integration studies to determine accurate costs.
- Encourage the use of Western's Electric Power Training Center to train operators
    - Add integration module to existing curriculum.
- Motivate utilities to send their people to power and operation training opportunities on wind.
- Develop and deploy integration study curriculum.
- Partner with utilities on in-house trainings.

State by State

Support (attend) Western Governors' Association /Western Interstate Energy Board (WIEB) sponsored efforts/initiatives. WEIB is an organization of state energy office representatives. WGA and WIEB are leading many efforts critical to building markets for wind and dealing with integration issues west-wide.

Transmission

Transmission is a major barrier to wind development for the states in the Southwest region. Politically, western states have rejected ideas and plans for a national, interconnected grid. The states in this region feel they are dealing with different issues at the state level than at the regional level. Locally, states are working on transmission issues, but there is a need for greater wind and stakeholder engagement in this process. Also, there exists a disconnect between the utility's bottom line to get transmission lines built and the need to address issues such as space on the lines.

One regional solution to transmission would be to focus on education. Southwest representatives felt it would be beneficial for WPA to understand what is going on with regional transmission issues and to be up to date on what lines are being proposed, where they are going, etc., so that they can assist in addressing the need for education. Education is needed for the public, developers and those involved in regional and sub-regional planning activities. Information should to be easily accessible and understood by a broad range of individuals and organizations, something that currently is not happening due to the complexity and size of the issue regionally.

Another way to address this issue is to work with other technologies in the renewable energy community to band together as a consortium behind transmission. Transmission isn't just a wind issue, but affects the development and inclusion of other renewable energy technologies.

Continued work on economic development models to show how transmission contributes to economic development in communities could be a tool for educating those working on transmission issues.

Lack of a compelling market case for wind

Some solutions to address the lack of a clear understanding of the market justification for renewables were discussed by the whole group after the breakout session. One of the main solutions that could be

developed at a regional level was putting a cost to externalities. Since people aren't charged for externalities they don't have a real sense of the costs different energy sources have. If people are educated on the concepts of externalities, it is thought that they will be more supportive of renewable energy. They also felt that if externality costs were developed and presented at a more regional level, it would have a greater impact on people and organizations.

The other solution the group discussed was education and the availability of information from NREL/WPA. They felt that it was very important for reports, technical analyses and education to come from and be linked to NREL/WPA because of NREL's rigorous reports, technical analyses and the perception as an unbiased source. When presented with information from NREL, it is hard for opposing organizations to dispute the facts.

Lastly, it was briefly suggested that there are some utility models from other generation sources that could be used for wind on utility scale. One example came from the solar program, which provides guidelines on community scale financing models.

Local Planning, Permitting and Ordinance

To deal with the issues surrounding local planning, permitting and ordinances, good information is necessary. Education and stakeholder engagement in many different forms could be used to help reach people. Some possibilities include model studies, a list of peer-reviewed studies and a clear definition of terms. Information should be disseminated in multiple ways, whether on the internet or by boots on the ground. Stakeholder engagement should be proactive so that decision makers are as informed as possible. Education and stakeholder engagement could follow the model provided above for education to public and environmental organizations.

Development on Tribal Lands

Difficulties developing wind on tribal lands are widespread, yet tribe specific. One possible solution to easing the process for wind development on tribal lands is to design a workshop for Native Americans. It would be beneficial to provide a workshop or other forum where tribal members can go to learn about FERC, transmission, and other aspects of wind energy. It would also be advantageous to provide training opportunities to Native Americans, so that they gain economic development and have a vested interest in moving wind projects forward. NREL and other organizations have developed such programs, such as the Wind Energy Applications Training Symposium (WEATS), and these are offered through the DOE Tribal Energy program and other venues, but additional training on technology and more important successful deployment strategies are still needed.

Regional Strategy Development

Workshop participants initiated a discussion on how to approach key barriers strategically and at a regional scale.

During the regional strategy development discussion, participants identified existing organizations that are examples of regional entities which could be used as either models or integrators for regional

activities. Existing organizations include the American Wind Energy Association, Appalachian Regional Commission, Cooperative Ecosystems Study Units (CESU), and the Great Lakes Wind Collaborative. Other organizations with existing western focuses include the Interwest Energy Alliance, Southern Alliance for Clean Energy, Sub-regional Planning Groups, Western Grid Group, Western Interstate Energy Board, and the Western Governors Association. Each of these organizations has strengths and capabilities that could be utilized in addressing regional barriers to wind energy development.

It was felt by most, if not all attendees that in order to make a regional approach work in the Southwest, there needs to be regional cooperation among states and a vehicle for continued support to individual states. Because there has been little to no in-state funding for Wind Working Group activities in most of the states in the region, funding received from Wind Powering America has been critical to organizations working to increase wind development. Without funding for states, meeting participants expressed concern that the programs created to move wind forward will come to an end. Participants also expressed concern that the progress that has been made and the capacity to allow for wind development will be lost and overshadowed by adversarial organizations without clear and continued focus at the state level. Without strong support and healthy markets in individual states, addressing barriers and furthering wind development on a regional basis will be difficult to accomplish.

To encourage regional cooperation and barrier resolution, meeting participants felt that future regional entities should be given multi-year funding to give them the opportunity to fully grasp the issues of the region, time to put a strategy in place and really get it working. They also felt that annual regional meetings would be helpful to make connections and continue the conversations that were begun at this meeting.

Conclusions

WPA's mission remains to *educate, engage, and enable critical stakeholders to make informed decisions about how wind energy contributes to the U.S electricity supply in the support of a vision expressed in the* 20% wind by 2030 report. Since the inception of WPA however, two things are changing. The first is the market, meaning that the approaches that moved the country to 2% are not going to be the same ones that will allow achieving 20% of our electrical energy from wind sources. In an effort to take a more effective approach, the WPA focus is shifting to a regional approach and looking for ways to help states work better together as a region. The second change is that we are seeing a clear decrease in available Federal resources to support stakeholder engagement activities, creating the need for a more efficient approach. Although the Obama Administration has expressed a strong interest in clean energy deployment (80% by 2050), DOE is currently focused on technology development and recently increased its focus on offshore wind development. This technology focus, when combined with the current fiscal climate means that other public and private funding sources will have to be identified to augment continued Federal funding.

A continuing and functioning network in the Southwest region requires continued education to stakeholders in order to address public acceptance issues. A functioning regional network will also need

to include state-specific capability that can incorporate local knowledge of events and impacts. Therefore state WWGs will have a continued important role as WPA transitions to a regional approach.

Although some of the states in the general region, specifically California and Colorado have strong markets for wind technologies, many other regional states are just starting to develop active wind markets. There was a clear concern voiced by many state representatives that although there were very viable reasons to move to a regional network, the possibility of reduced state based funding just as states were starting to develop markets would be potentially catastrophic. Participants pointed to the shutting down of the DOE regional offices and a centralization of Geo-powering the West programs as examples of how efforts to gain efficiencies had resulted in a complete loss of effective stakeholder networks.

As there has been a multitude of compounding changes in the WPA program, meeting attendees and specifically contractors were confused about expectations and/or were losing confidence in the future of the program. Remedies to this confusion were discussed that would help rebuild trust with WPA (DOE and NREL) management:

- Making clear commitments
- Following through in a timely manner
- Cutting through cordial hypocrisy (speak freely about issues that need to be addressed using specific requests and negotiations).
- Streamline the process

Appendix A: Regional Meeting Agenda

Wind Powering America Regional Workshop

8:30 **Welcome and introductions**

9:00 **State Updates** – 10 minutes/state

Hear about activities and capacity of each state, identify major issues and opportunities. Identify top issues for small group focus.

10:15 **Break**

10:30 **Breakout Session: Regional Issues and Solutions**

Small groups dissect top issues, brainstorm what strategies have worked on a regional basis to address issues, and develop recommendations of strategies that could be used to address issues in the region.

12:00 **Lunch**

1:00 **Breakout Session: Regional Solutions Continued and Report Out**

Breakout groups wrap up and report out on the opportunities/solutions best suited to the region.

2:30 **Break**

2:45 **Group Discussion on Remaining Issues**

Participants discuss other issues not addressed in small groups, clarify the issues and identify knowledge/gaps.

3:30 **Regional Strategy Development**

Discussion on how the workshop topics contribute to a regional strategy, identify key players.

4:30 **Adjourn**

Appendix B: Southwest Participant List

Name:	Affiliation:	State:
Jim Ahlgrimm	U.S. Department of Energy	District of Columbia
Bob Anderson	Western Grid Group	Nevada
Grace Anderson	CA Energy Commission and WECC TEPPC	California
Bill Auberle	Northern Arizona University	Arizona
Sara Baldwin	Utah Clean Energy	Utah
Ian Baring-Gould	NREL - Wind Powering America	Colorado
Robert Buntjer	Electrical Apprenticeship of So. NV	Nevada
Larry Burton	Burton Consulting, LLC	Nevada
Chris Caluya	Burton Consulting, LLC	Nevada
Bonnie Christiansen	Utah Clean Energy	Utah
Corrie Christol	NREL - Wind Powering America	Colorado
Karen English	Northern Arizona University	Arizona
James Halsey	IBEW 357	Nevada
Rich Hamilton	Nevada Wind Working Group	Nevada
Jeneane Harter	HiTech Communications	Nevada
Pete Konesky	Nevada State Energy Office	Nevada
Randy Manion	Western Area Power Administration (WAPA)	Colorado
Amanda Ormond	Arizona Wind Working Group	Arizona
Tom Potter	All American Energy	Colorado
Sean Sever	Nevada State Office of Energy	Nevada
Chris Tallackson	Utah State Energy Program	Utah

Appendix C: Major Barriers in the Southwest Region

Participants in the Southwest region identified a total of sixteen barriers. Voting was used to determine the top state and regional issues. Each participant cast four votes, two indicating barriers that were most important to their state and two identifying the most important regional barriers. Education of environmental organizations was initially a separate barrier, but was later combined with education of the public.

Southwest Barriers	Votes	Weighted	Regional votes
Funding for outreach/education support	11	17%	1
Education of the public and environmental organizations	10	16%	8
Permitting and access on federal lands (BLM, F&W)	9	14%	9
Utility integration Issues	9	14%	2
Transmission	8	13%	8
No articulated market case for utilities (IOUs, Coops, Munis) to want wind	5	8%	3
Local planning, permitting & ordinances with outreach to local leaders	5	8%	1
Complexity of jurisdictional (federal, state, tribal, local & private) lands	3	5%	0
Better assessment of local wind resource	1	2%	0
Disconnect between developers and community engagement	1	2%	0
Framework for development on tribal lands	1	2%	0
Market justification for community wind	1	2%	0
Justification/understanding impacts between lcoal vs. remote development	0	0%	0
Lack of competitive procurement understanding	0	0%	0
Equipment certifications	0	0%	0

Appendix D: Feedback Form

During the month of March, the Wind Powering America team conducted a series of regional meetings to better understand the barriers that hamper the appropriate deployment of wind technologies and provide a collaborative discussion. After reading through the draft summary report for the Southwest Regional Meeting, we strongly encourage people to provide any comments or perspectives that were not already captured. Please use the Feedback Form to document your feedback. When appropriate, please reference line numbers. We request all comments be returned to Corrie Christol by May 31st, 2011, corrie.christol@nrel.gov, fax: 303-384-7097. *Once all comments have been received, efforts will be made over the next several months to formally synthesize the input from these meetings so that Wind Powering America activities help to support the wind community*.

The Southwest Region

Arizona

California

Nevada

New Mexico

Utah

Barriers & Opportunities

Funds for Outreach and Education

Funds for Stakeholder Engagement and Education

Difficulty working on Federal Lands

Utility Integration Issues

Transmission

Lack of a compelling market case for wind

Local Planning, Permitting and Ordinance

Development on Tribal Lands

Regional Strategy Development

Conclusions

Other comments

Please provide any other comments on the content, organization of the document or other content that was not addressed above.