

RePower

Humboldt



Humboldt RESCO Task 6 Memo: Stakeholder Analysis September 2012



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Humboldt RESCO Task 6 Memo: Stakeholder Analysis

1.1 Introduction

One of the aims of the Humboldt County RESCO project was to assess community goals, preferences and perceived issues related to renewable energy development in Humboldt County via a stakeholder engagement process. This memo summarizes the stakeholder engagement process and lessons learned.

1.2 Stakeholder Process

1.2.1 Stakeholder Groups

Eleven stakeholder categories were specified and participants were recruited from each of these categories to participate in a stakeholder process. A concerted effort was made to cast a wide net and recruit a broad cross section of the community. The table below lists the stakeholder categories, the number of stakeholders invited within each category, and the number of stakeholders that participated in the two general stakeholder meetings and one youth stakeholder meeting that were held. Appendix A includes a list of invited stakeholders. Appendices B and C include lists of those stakeholders who attended the first and second meetings, respectively.

Stakeholder Group	Invited to Participate	Attended Meeting 1	Attended Meeting 2	Attended Youth Meeting
Business Community	5	3	2	
Economic Development/Financial Organizations	8	3	2	
Education/Policy Groups	6	2	2	
Energy Industry	9	8	4	
Environmental/Energy Groups	8	2	2	
Forestry and Fisheries Organizations	11	4	2	
Labor Groups	5	0	3	
Political Leaders	17	6	6	
Regulatory Bodies	9	3	1	
Tribes	8	0	1	
Youth	36	2	2	35
Total	122	33	27	35

These stakeholder groups were identified as key players to help with the development of local renewable energy projects and to promote their acceptance within the broader community. Each group has a stake regarding renewable energy development in Humboldt County. Below is a brief description of each group and an assessment of their potential role in local renewable energy development.

Business Community

Members of the business community include private companies and business organizations that aren't directly engaged in energy related activities, but who still could be affected by local renewable energy development. This group could be affected by energy cost and availability, local economic impacts (job growth, economic stimulus), and other potential local impacts. For example, the business community of Ferndale recently expressed concern about potential impacts to their tourism industry should wind power be developed on Bear River Ridge located near their town.

Economic Development/Financial Organizations

Stakeholders in this category include non-profits and financial organizations concerned with the economic success of Humboldt County. Development of local renewable energy projects can stimulate the local economy by creating jobs, generating new sources of revenue, and keeping more local dollars spent on energy circulating in the local economy. Stakeholders from the economic development community can help promote local renewable energy projects. Stakeholders from financial organizations can serve as potential financiers of renewable energy projects and may be able to help secure outside capital as needed.

Education/Policy Groups

Stakeholders from this category represent a significant knowledge base within the community. Educational institutions such as Humboldt State University and College of the Redwoods can provide renewable energy projects with valuable research and analysis capacity (including technical, economic and political feasibility), as well as serve as important training grounds for the green workforce.

Energy Industry

Members of the energy industry group include local energy professionals, such as representatives from PG&E, biomass power plant owner/operators and solar installers. Local renewable energy development can affect these stakeholders by creating new project opportunities, and by impacting existing energy production facilities and related infrastructure. Stakeholders from this group possess the technical know-how needed to integrate new renewable energy projects into the local energy mix.

Environmental/Energy Advocacy Groups

Members of these groups represent non-profits dedicated to protecting the environment and promoting sustainable, clean and renewable energy production. While renewable energy development typically has a lower negative environmental impact than other energy sources, project development can often have an impact on the local environment. Engaging groups dedicated to preserving the high environmental quality of Humboldt County will be important to the successful development of local renewable energy.

Private/Non-Profit Forestry and Fisheries Organizations

Logging and fishing are two major industries that contribute to the Humboldt County economy. Expanded use of local biomass as an energy source can have an effect on local forests, while potential development of wave and small hydroelectric projects could impact local fisheries. Input from these stakeholder groups will be important with regard to the development of these resources. Stakeholders from this group will be able to provide insight regarding sustainable management of forestry and fishery resources, potential permitting issues, potential project sites and resources, and potential impacts to their industries.

Labor Groups

Representatives from labor organizations represent those men and women likely to be directly impacted by renewable energy development in terms of jobs. Our economic analysis indicates that, on the whole, renewable technology development will create jobs in the region. While the numbers vary by technology and by construction versus maintenance, it is important to include tradesmen in the conversation to plan for and build support for future projects.

Political Leaders

Political leaders, those elected to serve the public interest, have been identified as stakeholders in this process as they have control over policies affecting all segments of society, including renewable energy development. By engaging political leaders, we hope to build support for renewable energy projects in the community.

Regulatory Bodies

While political figures enact the will of the people and serve as the public face of the legislative process, regulatory bodies are involved in enforcing laws and developing public policy. Representatives from this stakeholder group include those bodies directly responsible for the permitting processes that will affect renewable energy projects. Regulatory officials can provide insight into permitting issues and requirements. It may be possible to work with regulatory bodies to identify ways to reduce permitting barriers without sacrificing environmental protection.

Tribes

In Humboldt County, tribes are a significant minority population. Tribes throughout the region operate on sovereign territory under their own governments. As stakeholders, tribes may serve as potential owners of renewable energy projects, developers of projects on tribal land, and recipients of the energy produced by these and other projects. Many of the tribes in the area have a keen interest in developing and promoting renewable energy technology, and, as such, serve as important partners for Humboldt County's renewable energy future.

Youth

Youth were identified as key stakeholders in the development and promotion of renewable energy projects as they will be the future recipients of the costs and benefits of such projects. Youth were engaged partway through the stakeholder process and their input was captured separately from the other stakeholders.

1.2.2 Stakeholder Meetings

The first stakeholder meeting was held on November 18, 2010. Key activities at the meeting were 1) the development of a vision statement for renewable energy development in Humboldt County, and 2) development and ranking of criteria for evaluating potential renewable energy projects. The RESCO vision statement was developed based on an earlier sustainable energy vision statement that had been developed via a public process associated with the draft Energy Element for the Humboldt County General Plan Update. Appendix B includes materials from the first stakeholder meeting, including the agenda, summary, notes and the Energy Element vision statement.

Following the first stakeholder meeting a web-based survey was conducted to solicit input from those stakeholders who were not able to attend the first meeting. The renewable energy project evaluation criteria developed by stakeholders at the first project meeting were presented to

survey participants and participants were asked to rank them according to their importance. An additional 19 stakeholders participated in the web-based survey. The results of the web-based survey were then combined with the ranked results from the first meeting to arrive at the final ranked evaluation criteria shown in the table below.

Criteria	Ranked Score (out of 100 points total)
Environmental Quality	23%
Financial Viability / Affordability	22%
Local Acceptance, Participation, and Control	16%
Economic Impact (Jobs, Income)	13%
Appropriate Technology	13%
Social/Environmental Justice	8%
Other Community Benefits	4%

A discussion of the criteria and the ranking process is provided in the November 18, 2010 meeting summary included in Appendix B and the overall ranking of criteria based on the meeting and web-based survey results is outlined in Appendix C.

Following the initial general stakeholder meeting, a special youth stakeholder meeting was conducted. Youth from local area high schools were recruited to participate and a total of 35 youth attended the meeting. The youth were engaged in developing a vision for Humboldt County's future and a set of evaluation criteria. The criteria the youth came up with were similar to the criteria generated by the general stakeholder group in many ways. Youth also identified environmental quality as the most important criterion and affordability as the number two ranked criterion, though they added the aspect of social equity to their second ranked criterion. Social equity was identified as a criterion by the general stakeholder group, but it was not ranked as high. Youth also ranked job creation and economic impacts as important criteria. One criterion they added that was not included in the general stakeholder list was the impact on future generations. Not surprisingly, youth are concerned with the future that they will inherit and then pass on to later generations. A summary of the youth stakeholder meeting is included in Appendix E.

A final general stakeholder meeting was held on April 13, 2011. At this meeting stakeholders were presented with a project update and a review of the work completed to date. Then they broke up into small groups to discuss seven different potential energy project categories. These included: biomass, wind, small hydro, electric vehicles, heat pumps and other efficiency technologies, solar, and potential energy projects being considered by the Humboldt Waste Management Authority, including solar electricity, landfill gas to energy and food digester projects. Each group brainstormed potential near-term projects, identified key players, considered strengths, weaknesses, opportunities and threats, and identified near-term next steps and long-term goals and concerns. Appendix D includes materials from the second stakeholder meeting (agenda, summary, etc.).

Based on the RESCO project research and analysis and informed by stakeholder input, a RESCO strategic plan (called RePower Humboldt) has been developed. A public draft of this document will be circulated to all general stakeholders and their feedback will be solicited.

1.3 Lessons Learned

Numerous lessons were learned during the stakeholder engagement process; a few key lessons are listed below. Note that the comments made below are based on feedback from a relatively small number of community members and may not reflect overall community sentiment. The lessons learned below draw on stakeholder input received during the RESCO stakeholder meetings of November 18, 2010 and April 13, 2011, as well as community dialog from other energy related community meetings.

- Key criteria to be considered for future energy projects include: environmental impacts, financial viability/affordability, local acceptance/participation/control, and economic impacts (jobs, economic stimulus).
- With regard to local participation and control, people would like to see projects that are developed and owned locally. People would also like the ability to purchase locally generated electricity. People are less enthusiastic about power that will be generated locally and sold to other electricity consumers located outside of our region.
- There is some distrust of large multinational corporations. Projects developed by large, out-of-the area corporations are less likely to find favor in the community. However, access to capital may require the participation of outside interests.
- While people are concerned about global environmental issues, they become much more personally involved when a project is located in their neighborhood and will impact their own local environmental quality.
- It is important to engage people early in the project development process and give them a chance to voice their concerns.
- People want to feel listened to. Their input should be solicited and responded to in concrete ways so they can see that their input is making a difference.
- People want to see real, tangible benefits for their communities associated with proposed projects, especially if they perceive they or their community is giving something up in the process.
- People need to be better educated about how much energy we use, where it comes from and what the implications are, as well as about the various energy alternatives we can pursue and what the trade-offs are associated with these alternatives.
- People need to be educated that all energy options have impacts, including the “do-nothing” option.
- People want to be engaged in a two-way conversation. They do not want to be talked at or talked down to.
- People often voice a preference for small-scale, distributed energy systems located close to where the power is needed. While these systems can play an important role, there will also need to be larger scale projects if we are to provide a significant portion of our

energy using local renewable energy. This is a public education and outreach topic that needs to be addressed.

- Offshore wind and wave energy: The public process surrounding the recently proposed PG&E WaveConnect project showed that the local fishing community is concerned about the impacts that offshore energy (wave power, wind power) might have on their industry. Possible environmental impacts were also raised during this process. That said, there was also a lot of public support for the proposed PG&E WaveConnect project. However, due to cost concerns, the immaturity of wave energy technology and other challenges, PG&E chose to suspend development of the WaveConnect project..
- Onshore wind energy: While there were those in the community that voiced support for the project, there was also a significant amount of opposition toward the proposed Shell WindEnergy Bear River Ridge wind power project. Key concerns included potential impacts, such as: impacts to local tourism, impacts to roads, construction impacts and disruption to town activities, impacts to the town water supply, impacts to birds and bats, and visual impacts. This project has since been discontinued, but if there are future attempts to pursue a wind project on Bear River Ridge it will likely encounter some of the same opposition.
- Biomass energy: Concerns have been voiced about the expansion of biomass power in Humboldt County. People are concerned about potential negative impacts to our local forest ecosystem and creating a situation where we are cutting trees to feed a power plant (as opposed to capturing an otherwise unused waste stream). Concerns have also been voiced about the sustainability and carbon neutrality of biomass energy.
- Small hydro energy: It is anticipated that there will also be concerns about the development of small-scale, run-of-the-river hydroelectric projects and the impacts these projects could have on aquatic ecosystems. Although it is true that any approved project would need to meet stringent environmental criteria and overcome significant permitting and regulatory hurdles, there still may be concern about potential impacts.

1.4 List of Appendices

Appendix A: Complete List of Invited General Stakeholders

Appendix B: Stakeholder Meeting 1 Materials

Meeting 1 Agenda

Meeting 1 PowerPoint Presentation

Meeting 1 Summary

Meeting 1 Flip Chart Notes

Energy Element Vision Statement

Criteria Descriptions

List of Meeting 1 Attendees

Appendix C: Criteria Ranking Results

Appendix D: Stakeholder Meeting 2 Materials

Meeting 2 Agenda

Meeting 2 PowerPoint Presentation

Meeting 2 Summary

List of Meeting 2 Attendees

Appendix E: Youth Meeting Summary

Appendix A: Complete List of Invited General Stakeholders

Last Name	First Name	Organization/Affiliation	Stakeholder Group
Blodgett	Vanessa	Planwest Partners	Business Community
Collier	Kevin	Anderson, Lucas, Somerville and Borges, CPA	Business Community
Hockaday	J. Warren	Eureka Chamber of Commerce	Business Community
Williamson	George	Planwest Partners, Inc.	Business Community
Ziemer	Katherine	Farm Bureau	Business Community
Dalby	John	Redwood Capital Bank	Econ. Dev./Financial
Dyer	Jackie	County Economic Development	Econ. Dev./Financial
Elsbree	Dawn	Headwaters Fund	Econ. Dev./Financial
Foster	Greg	Redwood Region Economic Development Commission	Econ. Dev./Financial
Kraft	Michael	Small Business Development Council	Econ. Dev./Financial
Lorenzo	Connie	The Job Market	Econ. Dev./Financial
Rudebock	Ron	Coast Central Credit Union	Econ. Dev./Financial
Salzman	Steve	Plan It Green	Econ. Dev./Financial
Lehman	Peter	Humboldt State University, Schatz Energy research Center	Education/Policy
Marsee	Jeff	College of the Redwoods	Education/Policy
Moxon	Kathy	Redwood Coast Rural Action	Education/Policy
Peterson	Mike	College of the Redwoods	Education/Policy
Richmond	Rollin	Humboldt State University	Education/Policy
Stewart	Connie	CA Center for Rural Policy	Education/Policy
Katz	David	founder of Alternative Energy Engineering	Energy Industry
Leary	Kevin	Renewable Energy Providers, Inc (Blue Lake Power)	Energy Industry
Marino	Bob	Fairhaven Power Plant	Energy Industry
McClelland	Marty	Representing Shell WindEnergy	Energy Industry
McKeever	Nate	McKeever Energy and Electric	Energy Industry
Ratana	Pana	Shell Wind Energy	Energy Industry
Scurfiled	Jan	Scurfield Solar	Energy Industry
Talbot	Alison	Pacific Gas and Electric Company	Energy Industry
Tittman	Daniel	Greenwired	Energy Industry
Berman	Jennifer	Redwood Alliance Climate Action	Enviro/Energy Groups
Clark	Jim	Redwood Region Audubon Society	Enviro/Energy Groups
Flynn	Laura	Redwood Community Action Agency	Enviro/Energy Groups
Gold	Gregg	Sierra Club	Enviro/Energy Groups
Johnson	Kevin	Humboldt Electric Vehicle Association	Enviro/Energy Groups
Martinez	Val	Redwood Community Action Agency	Enviro/Energy Groups
Nichols	Peter	Humboldt Baykeeper	Enviro/Energy Groups
Ross	Kerry	Audobon Society	Enviro/Energy Groups
Bits	Dave	Pacific Coast Federation of Fishermen's Assoc.	Forestry/Fisheries
Blomstrom	Greg	Baldwin, Blomstrom, Wilkinson, and Associates	Forestry/Fisheries
Compton	Craig	Green Diamond Resource Company	Forestry/Fisheries
Dellinger	Adam	Northwest California RC&D Council	Forestry/Fisheries
Elsbree	Andy	Green Diamond Resource Company	Forestry/Fisheries
Fry	Tova	Humboldt Redwood Company	Forestry/Fisheries
Hansis	Dick	Institute for Sustainable Forestry	Forestry/Fisheries
Newman	Aaron	Humboldt Fishermen's Marketing Association	Forestry/Fisheries
Rogers	John	Institute for Sustainable Forestry	Forestry/Fisheries

Last Name	First Name	Organization/Affiliation	Stakeholder Group
Valachovic	Yana	Humboldt County Forest Advisor	Forestry/Fisheries
Wooden	Dan	Six Rivers National Forest	Forestry/Fisheries
Berg	Sid	Plumbers and Steamfitters Local 290	Labor
Borgeson	David	Building Trades Council	Labor
Borck	Bob	Building and Construction Trades Council of Humboldt and Del Norte Counties	Labor
Cochran	Ron	International Brotherhood of Electrical Workers	Labor
Hassler	Mariann	Carpenters Local Union #751/Eureka	Labor
Bohn	Juliet	Humboldt Waste Management Authority	Political Leaders
Clendenen	Cliff	Board of Supervisors District 2	Political Leaders
Fregoso	Neleen	Humboldt Transit Authority	Political Leaders
Fulkerson	Julie	Trinidad City Council	Political Leaders
Goosby	Zuretti	State Senator Pat Wiggins	Political Leaders
Lovelace	Mark		Political Leaders
Murguia	Liz	Congressman Mike Thompson's Office	Political Leaders
Pardi	Larry	Humboldt Transit Authority	Political Leaders
Parrish	Jay	Redwood Coast Energy Authority	Political Leaders
Rische	Carol	Humboldt Bay Municipal Water District	Political Leaders
Schneider	Sarah	City of Arcata	Political Leaders
Smith	Jimmy	Board of Supervisors, District 1	Political Leaders
Test	Jim	Humboldt Waste Management Authority	Political Leaders
Wilson	Mike	Harbor Commission	Political Leaders
Winkler	Michael	Arcata City Hall	Political Leaders
Woo	Sheri	Humboldt Bay Municipal Water District	Political Leaders
Woolley	John	Assembly Member Wesley Chesboro	Political Leaders
Ashton	Diane	National Marine Fisheries Service	Regulatory
Bond	James	U.S. Fish and Wildlife Service	Regulatory
Dolf	Jeff	Ag Commissioner	Regulatory
Frey	Vicki	CA Department of Fish and Game	Regulatory
Hattem	Michael	CA Dept of Fish and Game	Regulatory
Kraemer	Melissa	CA Coastal Commission, North Coast District Office	Regulatory
Martin	Rick	North Coast Unified Air Quality Management District	Regulatory
McIver	Bill	U.S. Fish and Wildlife Service	Regulatory
Merrill	Bob	CA Coastal Commission, North Coast District Office	Regulatory
Cozens	Rob	Resighini Rancheria	Tribes
Hernandez	Ted	Wiyot Tribe	Tribes
Kullman	Stephen	Wiyot Tribe	Tribes
Masten, Jr.	Leonard	Hoopa Tribe	Tribes
O'Rourke, Sr.	Thomas P.	Yurok Tribe	Tribes
Savage	Jonas	Trinidad Rancheria	Tribes
Smith	Edwin	Bear River Band of the Rohnerville Rancheria	Tribes
Supahan	Terry	Supahan Consulting Group	Tribes
Ludtke	Jordan	Eureka High School	Youth
Ludtke	Page	Parent	Youth

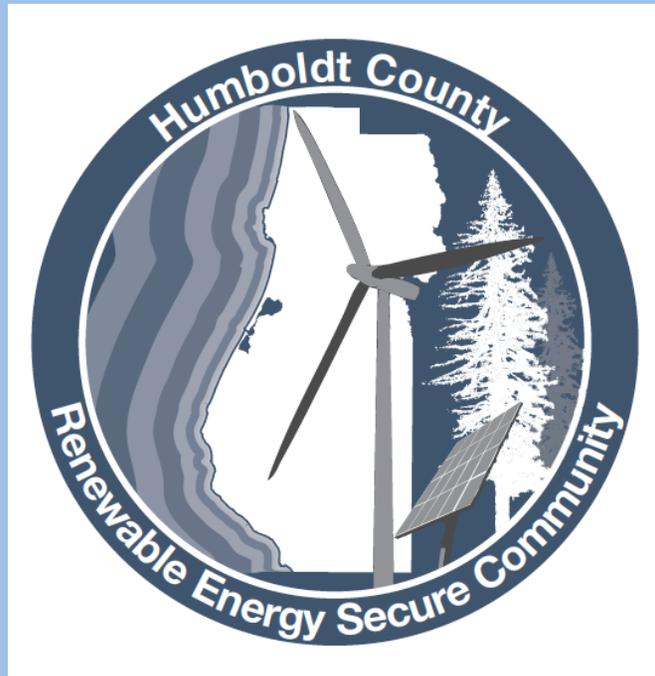
Appendix B: Stakeholder Meeting 1 Materials

RESCO Stakeholder Meeting One - Humboldt County Agricultural Building, Eureka, CA

Agenda: November 18, 2010, 6:00-9:00 p.m.

Thursday, Nov. 18		Presenters/ facilitators
6:00	1. Welcome & Introductions	<p>Jim Zoellick, RESCO Project Manager, Schatz Energy Research Center, Humboldt State University (HSU)</p> <p>David Boyd and Matthew Marshall, former & current Executive Directors, Redwood Coast Energy Authority (RCEA)</p> <p>RESCO Team: - Dana Boudreau (RCEA) - Shanna Atherton (RCEA)</p> <p>Facilitator: - Terry Uyeki, California Center for Rural Policy, HSU</p>
6:10	2. Purpose of evening: Stakeholder Input for RESCO Vision & Criteria for Considering Renewable Energy Options to Develop for Humboldt County	Matthew Marshall
6:15 p.m.	2. Overview of Agenda & Suggested Discussion Guidelines	Terry Uyeki
6:20 p.m.	3. The Context for the Vision of a RES Humboldt – A Timeline of Renewable Energy Planning that Led to the RESCO Application	Jim Zoellick
7:00	4. Crafting a Vision for Renewable Energy Secure Humboldt: Stakeholder Input	<p>Terry Uyeki</p> <p>Jim Zoellick</p> <p>Jordan Ludtke, Student, Eureka High School</p>
8:00	5. Developing Criteria for Weighing Renewable Energy Options: A Discussion about Guiding Values, Principles to Undergird the Strategic Plan	<p>Jim Zoellick</p> <p>Terry Uyeki</p> <p>Shanna Atherton</p>
8:50	6. Next Steps and Wrap-Up, Meeting Evaluation	<p>Jim Zoellick</p> <p>Terry Uyeki</p>
9:00	Adjourn!	

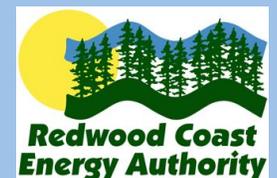
Planning for a Renewable Energy Security Community in Humboldt County



**Humboldt RESCO Stakeholders Meeting
Eureka, CA
November 18, 2010**



CEC Grant # PIR-08-034



Project Team

Redwood Coast Energy Authority

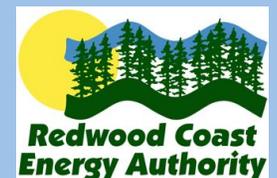
- ◆ Prime contractor
- ◆ Joint Powers Authority serving all of Humboldt County

Schatz Energy Research Center

- ◆ Sub-contractor
- ◆ Conducting majority of research

Pacific Gas and Electric Company

- ◆ Project partner providing in-kind cost share, technical assistance



What is a RESCO?

Renewable Energy Secure Community

- ◆ Achieve local energy security
- ◆ Develop local renewable energy resources
- ◆ Achieve high levels of energy efficiency
- ◆ Realize benefits such as:
 - Energy price stability
 - Security in energy supply
 - Local jobs and economic stimulus
 - Climate protection goals
 - Environmental benefits



Problem Statement

- ◆ Humboldt County has great potential to become a renewable energy secure community
- ◆ Greatest current barrier is lack of detailed strategic information on opportunities, costs, and benefits



Wind



Biomass



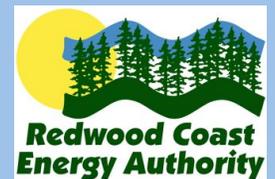
Wave

Project Goal

- ◆ Develop a strategic plan for Humboldt County to develop its local renewable energy resources to meet 75%-100% of local electric demand and significant fraction of heating and transportation energy needs



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**Redwood Coast
Energy Authority**

Project Objectives

- ◆ Assess full range of renewable resources
- ◆ Integrated mix of supply, demand and grid-integration technologies
- ◆ Maximize environmental, economic and social benefits
- ◆ Identify and respond to community values and preferences
- ◆ Develop long-term development strategy & identify near-term next steps
- ◆ Build local support and organizational capacity



What makes our project unique?

Humboldt County ...

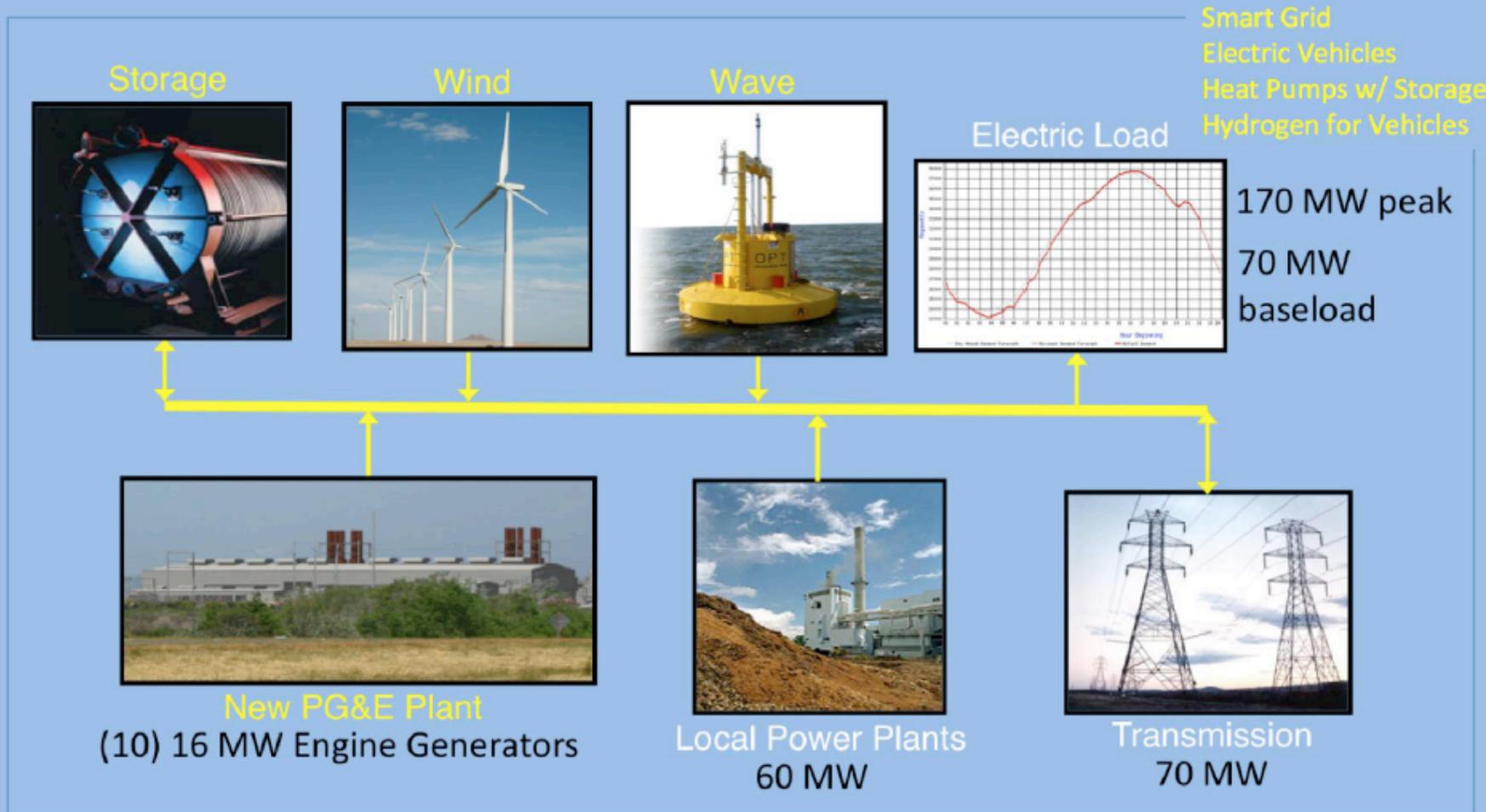
- Is an “energy island”
- Has a large renewable energy resource base
- Generates the majority of its own electricity, >1/3 from renewable biomass
- Is severely transmission constrained
- Has utility scale RE projects already in development
- Has a new natural gas power plant that matches well with intermittent renewables
- Possesses local energy research and planning expertise
- Enjoys great community support for RE

Scope of Work

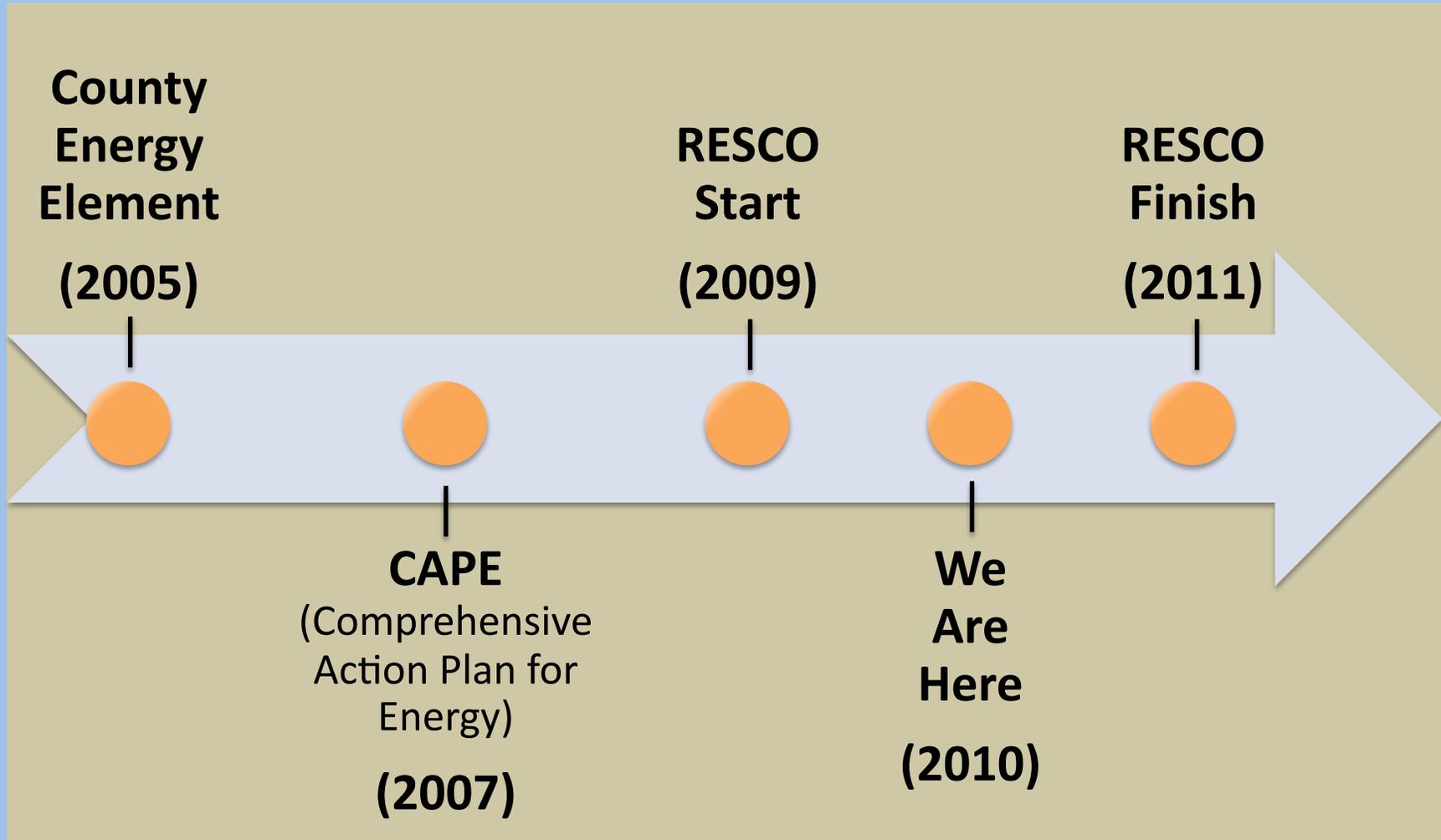
- Assess Resource and Technology Options
- Examine Development Structure, Financing and Ownership Options
- Conduct Economic Analysis
- Examine Regulatory and Political Issues
- Conduct Stakeholder Analysis
- Develop Strategic Plan and Identify Next Steps
- Create Community Outreach Plan
- Develop RESCO Planning Workbook



What sort of research are we doing?



How did we get here?



What RESCO Is and Isn't

Sustainable Energy Planning

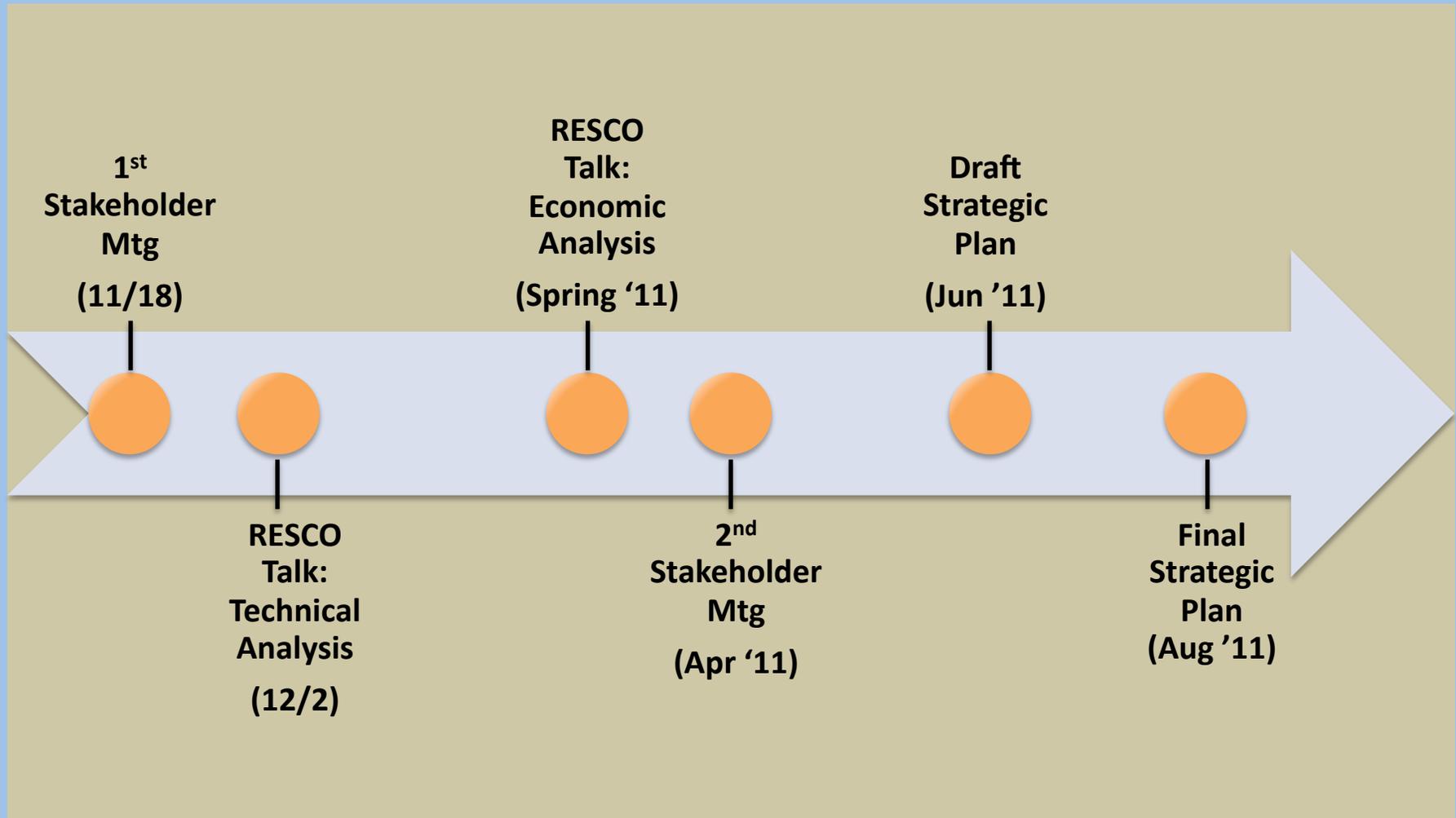
Part of RESCO

- Energy Efficiency
- Renewable Energy
- Energy Storage
- Electric and Hydrogen Vehicles
- Heat Pumps
- Smart Grid
- Demand Management

Not Part of RESCO

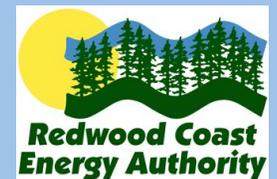
- Land Use Planning
- Non-Motorized Transit Modes

Where are we headed?



How will we measure success?

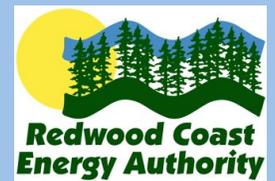
- Realistic strategic plan
- Strong community support
- Collaborative agreements / partnerships
- Local government embraces RESCO vision
- Near-term pilot projects specified, funding identified
- Long-term: Humboldt County becomes a **Renewable Energy Secure Community**



Thank You!



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Meeting Summary
Humboldt County Renewable Energy Secure Community Study
Community Stakeholder Meeting
November 18, 2010
County Agricultural Building, Eureka, CA

Thirty-three stakeholders and nine staff met to discuss the future of Humboldt County as a Renewable Energy Secure Community. The meeting followed nearly a year of research by the Schatz Energy Research Center into the potential of renewable energy development in the region and was the first of two stakeholder meetings designed to garner input and support for the creation of a strategic plan to guide the county toward a renewable energy future.

The meeting began with the introduction of RCEA's new Executive Director, Matthew Marshall, who outlined the purpose of the meeting and invited participants to help update and craft a vision for Humboldt County as a Renewable Energy Secure Community twenty years from now. He also asked participants to develop a list of criteria important for considering which renewable energy options to develop.

Jim Zoellick of the Schatz Energy Research Center gave participants a brief introduction to the RESCO project, how it became a natural extension of the Energy Element and CAPE, the technical and economic analyses researchers at SERC have done, and the next steps for developing the strategic plan (the ultimate goal of the project). Jim began by showing a ten minute video on the communities of Samso, Denmark and Greensburg, Kansas, both of which have pioneered the development of the green city. Jim encouraged stakeholders to remember these cities as they looked into Humboldt County's future as a RESCO.

After Jim's introduction to the project, Eureka High School Senior Jordan Ludtke read the vision statement that was written for the Energy Element in 2005. This vision statement was the basis of the group's first discussion, and will serve as the foundation for the RESCO vision that will guide the strategic plan. Participants formed small groups and discussed what resonated for them about the vision and what they wanted to add or change to make it their own. Stakeholders identified the following points as ones that resonated with them:

- The development of an ethos of low energy consumption and personal responsibility
- Education of the community on energy efficiency and conservation, as well as education on the value of renewable energy for reducing the county's environmental impact
- The diversity of options for meeting personal energy needs and the ability of many households to produce more than they consume
- The ability of the county to adequately meet all of its energy needs with locally produced and controlled resources and thereby become energy self-sufficient
- The creation of jobs and income through the use of locally sourced renewable energy
- The county as a net-exporter of energy
- The maintenance or increase in Humboldt County's quality of life
- Seeing the county as a pioneer in renewable energy use and development

- Making energy considerations part of all decision making processes

Participants also indicated key points they wanted to develop or add, including:

- Articulating an ethic of renewable energy more clearly
- Elaborating on and defining more clearly what energy conservation/efficiency education means
- Noting the county's energy sources, energy demand, and ability to use those sources to meet that demand
- Creating awareness of where the county's energy comes from and how much energy individuals in the county consume
- Giving consumers direct control over how they impact the environment through energy consumption
- Indicating how regulations and financing mechanisms will support the protection of natural resources and promotion of renewable energy
- Being more specific about energy efficiency/conservation goals
- Using the county's renewable energy development to attract a younger population to the area as well as eco-tourists to stimulate the economy
- Incorporating all elements of consumption into energy planning
- Ensuring that all energy pursuits are socially just in their processes and affordability
- Ensuring that outlying areas are consulted and included in all renewable energy, energy efficiency, and environmental education efforts
- Maintaining balance in the system and not pursuing renewable energy options at the cost of ecosystem health

Participants also sustained dialogue on issues that concerned them about a potentially self-sufficient, renewable energy future for the county. One participant noted that while the county is fairly isolated in terms of energy transmission, it is still part of a global community that can be drawn on for support in achieving county goals. She did not want the focus on self-sufficiency to overshadow the benefits of remaining linked with other communities in some way. Other participants emphasized the importance of local ecosystem health when considering renewable energy options. Many people noted that pursuit of biomass, for example, must be done sustainably, so as not to destroy local environmental quality for the sake of local energy production. Others mentioned avoiding solar and wind farm development in habitat corridors. The key to finding balance, everyone agreed, was to take into account the true impacts of all energy options, compare those impacts with the benefits of the given options, and move forward from there.

After discussion of the vision statement ended, participants went on to develop a list of criteria they felt were important when considering renewable energy options in the county. By the end of the meeting, seven criteria had been developed and ranked in order of importance by the stakeholders. SERC researchers will use these criteria to rate various renewable energy scenarios for Humboldt County and to determine which scenarios are most fit to meet the county's needs and community's goals.

1. **Environmental quality**

As had been inferred from the vision statement dialogue, environmental quality was the most important criteria by which stakeholders felt renewable energy options should be considered. For stakeholders, the criterion ‘environmental quality’ does not simply refer to the immediate impact of renewable energy development on the local landscape and ecosystems (though it definitely means that, too). Environmental quality also refers to the global and regional environmental impacts of the renewable energy option being considered (i.e., the carbon footprint of the option, impacts on water quality down stream or salmon runs, effects of a wind farm on habitat corridors). The criterion includes consideration of the cradle to grave impacts of the RE option. It looks at whether hazardous waste will be produced through the implementation of the RE option, as well as how construction of the RE system, transportation of the source energy, and disposal of any waste that may occur will affect local, regional or global ecosystems. Stakeholders repeatedly expressed an interest in low or no environmental impact by these projects locally and globally, while also acknowledging that RE options need to be compared to non-renewable options in order to accurately weigh the effects of those options on the environment.

2. **Financial viability of implementation and affordability of use**

Stakeholders concluded that if renewable energy options lack buy-in from the business community or are prohibitively expensive to construct or use, then the options are impractical and undesirable. Stakeholders indicated that financial viability includes diverse and sustainable funding sources for the construction of various RE projects, including federal and state moneys and support from the local business community. They also emphasized that energy prices from these options should be affordable to all people, or else the low income sector of the population would be adversely impacted by the switch to RE options and would see their quality of life decrease.

3. **Local acceptance, participation, and control of the renewable energy development process**

Returning to the vision statement discussion, stakeholders projected an interest in the county’s energy self-sufficiency when approaching renewable energy options. They strongly supported local control of the resources and the means of energy production where practical. However, this criterion digs deeper than that. Stakeholders, as representatives of diverse communities in the county, emphasized the need for local acceptance of and participation in the planning process for renewable energy development. Their presence at the meeting served as the first indicator of this buy-in. Buy in from the general public will be garnered partly through local environmental education efforts and renewable energy jobs training programs. Stakeholders particularly indicated the need for acceptance of renewable energy projects from the environmental, business, and agricultural communities to overcome hurdles early on in the planning process.

4. **Economic impact on jobs and income**

This criterion is the flip side of the financial viability item, and looks at how renewable energy options will stimulate living wage jobs within the county and increase the quality of life here. Stakeholders hope this will happen through local RE job training that will support local manufacture, maintenance, and service of RE systems.

5. **Appropriate technology**

This item refers to options sourced close to energy demand; are efficient, reliable, and reduce the number of transmission lines needed; are small scale, diverse, and meet the needs of individual populations; are sustainable but offer flexibility for future development; and don't create hazardous waste. Stakeholders hope to use this criterion to move away from over-sized renewable projects that would be visually unappealing and would have larger environmental impacts than small scale projects. They also felt that renewable energy options that meet this criterion would be more practical and would more easily respond to changes in demand.

6. **Socially and environmentally just**

By this, stakeholders meant that renewable energy options need to be affordable to all income levels, and they need to be fairly located throughout all communities so that both positive and negative benefits that may arise from renewable energy projects are shared equally. Particularly, renewable energy options should not increase the hazardous waste loads of communities, and they should not decrease the quality of life or the health of a community (i.e., due to increased particulate matter in the air). Many of these factors are included in higher ranked criteria; however, stakeholders felt that these factors taken together elucidate an important concept in its own right, a concept which merits its own distinction.

7. **Ability of renewable energy options to meet other community goals and create positive externalities**

Stakeholders hope that the presence of renewables in the region will create benefits other than just meeting the energy needs of the communities in which they operate. Examples of such externalities include an increase in local jobs, increased public health, and a decrease in waste.

Further discussion on Humboldt County's energy future is still needed to develop a comprehensive strategic plan for renewable energy development; however, November 18th's meeting set the stage for future dialog between researchers and community members and has begun the process by which Humboldt County will become a Renewable Energy Secure Community.

Flip Chart Notes

Discussion of Vision Statement – Answers to the questions ‘What resonates with you about the vision statement?’ and ‘What would you add or change about the vision statement?’

- Awareness of current state of energy supply/sources
 - want vision statement to address where energy comes from
- Use education to overcome NIMBY mentality
- Continue reputation of County as a pioneer
- like getting away from car based transportation systems
- want County to attract eco-tourists to increase economic inputs
- add municipalities in addition to the County
- like non-fossil fuel sources of energy
- would like more articulation of ethic of renewable energy
- more personal responsibility of energy use/consumption
- consideration of regulations in place to protect natural resources for future generation
- Definition/elaboration of and education on energy efficiency/conservation
- want more recognition of energy demand and sources to meet that demand
- energy planning that incorporates all elements of consumption
- net exporter resonates with people
- emphasize personal ethos
- concern → use of biomass, CO2 emissions and environmental impacts
- households produce more than use
- consideration → net energy export (off-setting energy imported)
- emphasis on the individual and diversity of choices
- changing tense of statement to ‘will be...’
- include outlying areas
- quality of life better, energy use goes down
- more people know about EE and RE → education
- more specificity of goals, actual #'s attached
- energy conservation/education → more enthusiastic community involvement
- attentiveness to low income communities → affordable for all
- wants to attract youth to area through creation of eco-topia
- giving energy users direct control of how they impact the environment (flexibility, turn indirect impact into direct via personal choice)
 - allowing people to exercise personal ethos directly
- self-sufficiency; localization of power rather than centralization of power
- biggest realities of getting to target are regulation and financing
- energy considerations as part of all decision making
 - also tie in climate change considerations
- Humboldt County may be an energy island, but we are also part of a global network/community and should link with/acknowledge that larger network to achieve our goals
- read Eco-topia, don't be it
- insert line about affordability (brought up twice)

- should keep in mind what our trade-offs are going to be with renewable energy options (ie: impacts on wildlife)
- Balance (“at what cost?” do we pursue RE options)
- environmental impact assessments → the ‘no-project’ alternative with respect to energy has a huge environmental impact that’s not always communicated
- waste management (haul it out → high energy use)
- what we have on roofs and ridges, we understand impacts/benefits, we feel good about our choices
- community consciousness

Vision Statement Post Its:

What people like:

- ‘emphasis on individuals’
- ‘diversity of choices’
- ‘net energy exporter’
- ‘self-sufficiency’
- ‘Quality of life – better; as energy use goes down, quality of life goes up’
- ‘many households produce more than they consume’
- ‘ethic/lifestyle of low energy consumption and personal responsibility; high quality of life; low impact on the environment’
- ‘energy conservation education’
- ‘non-fossil fuels for electricity and transportation; most/all locally produced for jobs and income’
- ‘resonates: HumCo is a pioneer and develops a RESCO. It shows the way for others. Get away from a car based transportation system’

Add:

- ‘Energy planning that incorporates all elements of the consumption life cycle (production, use, waste)’
- ‘more specificity of goals’
- ‘recognize energy demands and meet them with appropriate renewable energy sources’
- ‘renewable energy development needs to consider biological resource protection’
- ‘elaborate on energy conservation and efficiency education’
- ‘energy-source consciousness’
- ‘overcome NIMBY’
- ‘add cities to HumCo vision statement’
- ‘attention to carbon emissions and environment in use of biomass generation’
- ‘low income families-affordability’

Criteria Brainstorm:

Final Criteria

1. local acceptance, participation, and control – (31 dots)
2. economic impact (on jobs, income) – (24 dots)
3. environmental quality – (38 dots)
4. financial viability/affordability – (32 dots)
5. socially/environmentally just – (15 dots)
6. meets other community goals and creates other community benefits – (8 dots)

7. appropriate technology – (20 dots)

Initial Ideas for Criteria

(NOTE: The numbers next to the items below correspond to the numbers next to the final criteria above. These initial points of interest were grouped in order to ensure that all concepts from the brainstorm were included in the final list of criteria. Some of the points noted below fit into two or more of the final criteria categories and so have more than one number next to them.)

- economically viable – 2, 4
- lowest possible carbon footprint – 3
- associated impacts regarding water – 3
- egalitarian – 5
- manufactured, maintained, and serviced by local people (→ local economic activity) – 1, 2
- avoidance of habitat corridor blocking (ie: no solar and wind farms) – 3
- should maintain/increase Humboldt quality of life – 2, 5
- efficiency and conservation first (one of RE options looked at in SERC scenarios)
- source close to demand spatially – 7
- has to be available (given)
- creates jobs → living wage jobs – 2
- lowest environmental impact across all categories and regardless of where impact occurs – 3
- efficient delivery system, minimal transmission lines – 7
- small scale and diverse – 7
- creates other positive externalities and synergy – 6
- addresses multiple needs, beyond just energy – 6
- maximize leveraging opportunities, federal and state \$, financing – 4, 6
- reliability – 7
- buy-in from environmental community to head off problems ahead of time, people on board – 1
- cradle to grave impacts – 3
- affordability – 4
- practical, meets needs – 4, 7
- adequate to meet needs (given)
- train technicians locally, local education – 1, 2
- flexibility for future development – 7
- visual aesthetics – 1, 3, 6, 7
- sustainable – 7, 5, 4
- buy-in from business community – 1, 4, 2
- doesn't compete with food production systems, ecosystems – 1, 6, 3
- doesn't create increased amounts of hazardous waste – 3, 7, 6, 5
- diversity of financing options – 2, 4
- buy-in from general community, community pride in projects – 1
- local control when practical – 1

3.1 Energy Element Vision

The vision expresses the community qualities and characteristics that the Energy Element aspires to achieve. These are the desires of how Humboldt County could be described by the end of the General Plan's twenty-year planning horizon.

~~In 2025...~~

In 2030...

Humboldt County is no longer a net importer of energy. We achieve a high degree of energy independence and self-sufficiency through high levels of energy conservation and efficiency combined with locally-produced and -managed energy generation. Most of our energy comes from renewable sources. Significantly less money spent on energy leaves the county.

Individual communities have developed greater energy self-sufficiency and independence as has the county overall. Citizens have a diversity of choices for how to meet their energy needs. We have much more local control over energy prices. We have been able to readily adapt to any major external changes in energy supply or technology.

Our rate of energy consumption is level, due to increasing conservation and efficiency to offset increases in growth-related demand.

Our overall quality of life is as good as or better than it was in 2005. The population is healthier as a result of leading energy-conserving lifestyles. It is safe, pleasant, economically favorable, and typical to have a lifestyle that doesn't consume much energy.

Energy conservation education has reached, and continues to reach, effectively, everyone in the county.

Energy considerations and decisions are integrated with all other decision-making arenas.

The County is energy efficient through neighborhood design. Good community planning has reduced sprawl. There are fewer automobiles and there is less automobile dependence. Public transportation is conveniently available and well utilized and walking, bicycling and other non-automobile forms of transportation are commonly used. There is much less consumption of energy from non-renewable sources for transportation.

All buildings are energy efficient. All new construction is done in the most energy-efficient manner, starting with building design. All existing buildings have been upgraded to be more efficient. Energy efficiency is integral to building standards, which have flexibility and include meaningful incentives. Many homes and businesses produce more energy than they consume.

The County is a thriving research and development center and incubator for energy technology and related manufacturing, which is a stable source of local jobs.

Criteria Descriptions

Criterion 1: Environmental Quality

Description: The development, production, transportation, transmission and use of a renewable energy resource with high environmental quality would...

- * Have little or no immediate impact on the local landscape and ecosystems;
- * Have little or no global or regional environmental impacts (e.g., the carbon footprint, impacts on habitat corridors, downstream impacts on water quality);
- * Have little or no impacts from “the cradle to grave” (i.e., from the development of the resource to the disposal of any waste or by-products produced).

Note: Impacts may be direct or indirect. An example of an indirect impact is pollution emitted by a truck that is transporting a fuel for running a power plant.

Criterion 2: Financial Viability of Implementation and Affordability of Use

Description: The development, production, transportation, transmission and use of a renewable energy resource with high financial viability and affordability of use would...

- * Be supported by the business community;
- * Not be prohibitively expensive to construct or use;
- * Have diverse and sustainable funding sources for construction (private and public; local, state and federal monies);
- * Be affordable for low income consumers.

Criterion 3: Local Acceptance, Participation, and Control

Description: The development, production, transportation, transmission and use of a renewable energy resource with high local acceptance, participation, and control would...

- * Have evidence of high local support for and participation in the planning process for its development;
- * Have evidence of broad acceptance by and support from key sectors (i.e., environmental, business, and agricultural communities).

Criterion 4: Economic Impact on Jobs and Income

Description: The development, production, transportation, transmission and use of a renewable energy resource with highly favorable economic impacts on jobs and income would...

- * Stimulate the number of living wage jobs and raise income levels within the county through local manufacture, installation, operation, maintenance, and service of the renewable energy systems.
- * Stimulate the local economy by increasing tax revenues and injecting money into the local economy that indirectly stimulates non-energy related economic sectors.

Criterion 5: Appropriate Technology

Description: A renewable energy resource portfolio with appropriate technology would have options that ...

- * Have energy supplies close to demand, reducing the need for long transmission lines
- * Are efficient and reliable
- * Are diverse in scale and type
- * Are sustainable
- * Offer flexibility to respond to future changes in demand

Criterion 6: Socially and Environmentally Just

Description: The development, production, transportation, transmission and use of a renewable energy resource portfolio that is socially and environmentally just would...

- * Be accessible and affordable to people of all income levels;
- * Be placed throughout the county so that both positive and negative impacts that may arise from renewable energy projects are distributed equitably.

Criterion 7: Value-Added

Description: Value-added renewable energy options meet community goals and create positive externalities by providing benefits beyond just meeting the energy needs of the communities in which they operate. Examples of such externalities include an increase in local jobs, improved public health, and a decrease in waste.

**Redwood Coast Energy Authority
 RESCO Stakeholder Kick-off Meeting, 11/18/10
 Attendee List**

Last name	First	Organization/Affiliation	Title
Alstone	Peter	Schatz Energy Research Center	staff
Atherton	Shanna	Redwood Coast Energy Authority	staff
Blodgett	Vanessa	Planwest Partners	Associate Planner
Bohn	Juliet	Humboldt Waste Management Authority	Program Analyst
Bond	James	U.S. Fish and Wildlife Service	
Boudreau	Dana	Redwood Coast Energy Authority	staff
Boyd	David	Redwood Coast Energy Authority	staff
Chamberlain	Charles	SERC	staff
Collier	Kevin	Anderson, Lucas, Somerville and Borges, CPA	
Compton	Craig	Green Diamond Resource Company	
Flynn	Laura	Redwood Community Action Agency	
Fregoso	Neleen	Humboldt Transit Authority	General Manager
Fry	Tova	Humboldt Redwood Company	Director, Cont. Imprv't & Purchasing
Hansis	Dick	Institute for Sustainable Forestry	Board of Directors
Katz	David	founder of Alternative Energy Engineering	entrepreneur
Leary	Kevin	Renewable Energy Providers, Inc (Blue Lake Power)	CEO
Lehman	Peter	Humboldt State University, SERC	Director
Lorenzo	Connie	The Job Market/ETD	Manager
Ludtke	Jordan	Eureka High School	
Ludtke	Page		
Marroffo	Ivan	PG&E	
Marshall	Matthew	Redwood Coast Energy Authority	Executive Director
Martin	Rick	North Coast Unified Air Quality Management District	Director
McClelland	Marty	Representing Shell WindEnergy	Owner Liaison
McKeever	Nate	McKeever Energy and Electric	Owner
Peterson	Mike	College of the Redwoods	Dean, Construction Technology
Reynolds	Claire	KEET-TV	observer
Righter	Lindsay	Congressman Mike Thompson's Office	field representative
Salzman	Steve	Plan It Green	

Schneider	Sarah	City of Arcata	Energy Specialist
Scurfield	Jan	Scurfield Solar	Owner
Sessa	James	Coastal Credit Union	
Sheppard	Colin	Schatz Energy Research Center	staff
Talbot	Alison	Pacific Gas and Electric Company	Governmental Relations
Tittman	Daniel	Greenwired	owner/installer
Uyeki	Terry	California Center for Rural Policy	staff
Van Hattem	Michael	CA Dept of Fish and Game	Environmental Scientist
Winkler	Michael	Arcata City Hall	
Woo	Sheri	Humboldt Bay Municipal Water District	
Wood	Jennifer	Sierra Club	
Wooden	Dan	Six Rivers National Forest	
Zoellick	Jim	Schatz Energy Research Center	staff

Appendix C: Criteria Ranking Results

Stakeholder Criteria Ranking

Results from on-line survey

		# of votes						
Weight	Criteria	1	2	3	4	5	6	7
3	1st	6	5	1	3	3	1	0
2	2nd	4	6	4	3	3	1	0
1	3rd	1	3	4	3	3	2	4
		weighted score						
		18	15	3	9	9	3	0
		8	12	8	2	6	2	0
		1	3	4	2	3	2	4
	total weighted score	27	30	15	13	18	7	114
		24%	26%	13%	11%	16%	6%	4%

score from Nov. 18 stakeholder meeting	38	32	31	20	24	15	8	168
	23%	19%	18%	12%	14%	9%	5%	
combined score	65	62	46	38	37	22	12	282
% rank	23%	22%	16%	13%	13%	8%	4%	

Criteria	Ranking
1 Environmental Quality	23%
2 Financial viability/affordability	22%
3 Local acceptance, participation, control	16%
5 Appropriate technology	13%
4 Economic impact (jobs, income)	13%
6 Socially/environmentally just	8%
7 Other community benefits	4%

Appendix D: Stakeholder Meeting 2 Materials

Agenda

RESCO Stakeholder Meeting Two, April 13, 4:00-6:00 p.m.

Wharfinger Building, 1 Marina Way, Eureka, CA

- 3:30 p.m. Registration and light refreshments
- 4:00 p.m. 1. Welcome & Introductions – Matthew Marshall, Executive Director, Redwood Coast Energy Authority & Jim Zoellick, Senior Research Engineer, HSU Schatz Energy Research Center
- Shanna Atherton, RCEA Education and Outreach Coordinator
 - Terry Uyeki, Director of Evaluation & Community Services, HSU California Center for Rural Policy
- 4:10 p.m. 2. Purpose of Meeting & Overview of Agenda - Terry
- Recap the summary stakeholder input on criteria for weighing renewable energy options from Nov. 13 meeting and web survey
 - Jim Zoellick will provide an overview of the project research (technical and economic analyses) regarding renewable energy options available for Humboldt County
 - Shanna Atherton and area youth will report on youth involvement with RESCO and elements for a draft RESCO vision
 - **Today's meeting participants will begin to identify near term next steps to become a Renewable Energy Secure Community**
- 4:15 3. RESCO Project Update
- RESCO Youth Involvement – Shanna Atherton, Jordan Ludtke & Abi Black (10 min.)
 - The RESCO Vision – Terry (5 min.)
- 4:25 4. Review of Criteria for Weighing Options and Overview of the Results from the Engineering & Economic Analyses of Renewable Energy Options – Jim Zoellick [ask to hold questions till end of his presentation]
- Q & A: 10 minutes
- 4:50 5. Small Group Work: SWOT Analysis, Identifying Near Term Projects, Working Group membership & Next Steps – Terry
- 5 min. for directions Of 7 categories of renewable energy resources and efficiencies, spend your time at the table topic in which you are most interested.

4:55-5:25 for
small group work

Group 1: Biomass Group 4: Electric vehicles
Group 2: Wind Group 5: Heat pumps & other efficiency technology
Group 3: Small hydro Group 6: Solar
Group 7: HWMA (Jim Test, lead): solar electric, landfill gas & food digester projects

[See attached Working Groups Instructions, pp. 3-4]

Working Groups: 30 minutes (start at step that fits your group, and work through steps as far as you can get to. Minimally, do Steps 1 & 2)

****Assign a recorder**

Step 1. brainstorm near-term projects or activities, pick top 1-3

Step 2. identify who needs to be at the table (colored post-its)

Step 3. conduct SWOT analysis

Step 4. identify planning next steps or short-term goals

Step 5. identify long-term goals &/or concerns to be addressed

NOTE: Stakeholders that represent the financing and investment partners necessary to get these projects off the ground, please get together & decide amongst yourselves which 'energy option' group you want to be a part of today, so that we can have your expertise and knowledge 'distributed' throughout this room.

5:25-5:55

6. Report Out to Large Group – Terry

- Each small group takes **3 minutes** to report out to large group

General discussion (10 min.)

5:55

7. Closing – Terry

Do the 'Gallery Walk' & add your names using the colored post-it system for the various working groups.

Be a part of Renewable Energy Champions? a group to work with RCEA to represent the stakeholder viewpoints, as you have in this meeting and the one last November.

Next Steps for RESCO:

- Will send a proposed outline for the strategic plan & poll for feedback
- Will summarize all the next steps that each working group has developed
- Reconvene the group in the coming months as appropriate to move things forward.

Thank you!

6:00

Adjourn

Small Group Work: Identifying Near Term Projects, Working Group Membership SWOT Analysis & Next Steps

Pick a Group

Group 1: Biomass

Group 4: Electric vehicles

Group 2: Wind

Group 5: Heat pumps & other efficiency technology

Group 3: Small hydro

Group 6: Solar

Group 7: HWMA (Jim Test, lead): solar electric, landfill gas & food digester projects

Working Groups: 30 minutes (start at step that fits your group, and work through steps as far as you can get to. Minimally, do Steps 1 & 2)

Step 1. brainstorm near-term projects or activities, pick top 1-3

Step 2. identify who needs to be at the table

Step 3. conduct SWOT analysis

Step 4. identify planning next steps

Step 5. identify long-term goals &/or concerns to be addressed

NOTE: Stakeholders that represent the financing and investment partners necessary to get these projects off the ground, please get together & decide amongst yourselves which 'energy option' group you want to be a part of today, so that we can have your expertise and knowledge 'distributed' throughout this room.

Small Group Instructions:

1. Volunteer to facilitate each group moving through the steps outlined, and record the group's thinking on the 'worksheets' that is on newsprint at each table. You will report your group's thinking to the larger group.

2. Each group has a summary sheet for the energy resource or efficiency category.

The following is a suggested sequence of planning steps for your small group to engage in. Enter in the planning at the step that makes sense, depending on how far along the planning is for your particular group.

Step 1: brainstorm what could be feasible short- or near-term projects towards developing your particular renewable energy option. Some energy options already have initial projects in the making, or ones that could easily get started. But for other options, there may not be any concrete projects beginning yet in Humboldt County, but there could be.

- For example, there is already some planning started for how to make use of landfill gas and getting a food digester going here. For that group, move on to the next step, identifying key players, doing a SWOT analysis, followed by planning next steps.
- For another group, you may be at the very earliest stages of developing a resource, or perhaps there's a geographic area in Humboldt County that's ripe to launch a new project. So you will be brainstorming what the new projects could be.

After you brainstorm a list, **pick 1- 3 projects or steps to move forward**

Step 2. **Identify who needs to be at the table** in working on this renewable energy source or efficiency resource. Indicate your level of interest via post-its.

Green: You are a **'Hubba-Hubba'** – You can commit time and are an active player on this topic. Write your name & contact information.

Yellow: **'A'la-Node'** – You have something of worth to add regarding a specific aspect of this topic. Write your name & contact information.

Blue: **'Loop Lounger'** – You are interested in the topic and want to be kept in the loop, but can't commit to attending meetings, etc. Write your name & contact information.

Pink: **'Bridge Builder'** – You can help people working on the topic to get in touch with others who are interested, though you may not participate yourself. Write your name & contact information & who you are going to refer

Step 3. Start a SWOT analysis of one or more of the energy projects you are proposing.

You have a large worksheet, on which you will be analyzing **the challenges** in initiating, implementing or maintaining your renewable energy source or energy efficiency technology. Brainstorm a list of the strengths, weaknesses, opportunities and threats to addressing those challenges.

- **Strengths** (positive internal factors within the group's control that is supporting this energy option control. What can you maintain, build and leverage?)
- **Weaknesses** (negative internal factors within your control that should be limited or improved upon or remedied)
- **Opportunities** (positive external factors outside of your group's control on which you could capitalize to support this energy option. What can you prioritize and optimize)
- **Threats** (negative external factors outside of your group's control whose effects you should seek to lessen or counter)

Step 4. Next, reviewing your SWOT analysis, what should be **first or next steps** in working towards **short-term goals** for the next few years? Write those down on the second planning worksheet. We have provided a planning template to use, and an example.

- Maximize your strengths and capitalize on opportunities
- Minimize or remedy your weaknesses and potential threats

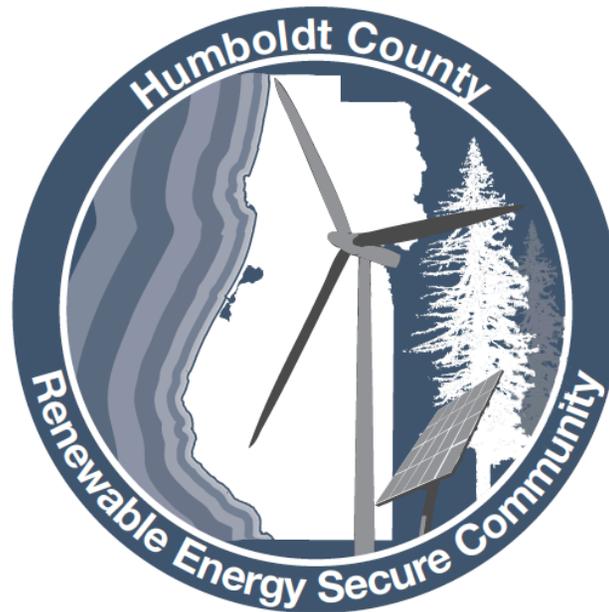
There may be some short-term goals or projects that might be perfect 'candidates' to receive grant funding in the second round of funding from RESCO for small scale distributed generation energy projects, so these have a high potential for being 'actionable.'

Step 5. Finally, if you have time, what would be **long-term goals** or targets to work towards in the next 20 years, or long-term concerns to be addressed? Write those down as well.

You will have until 5:25 to work through these steps, as far as you can get.

Renewable Energy Planning for Humboldt County

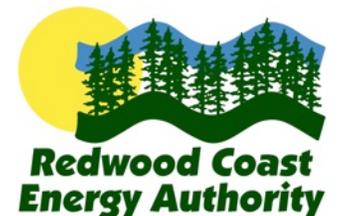
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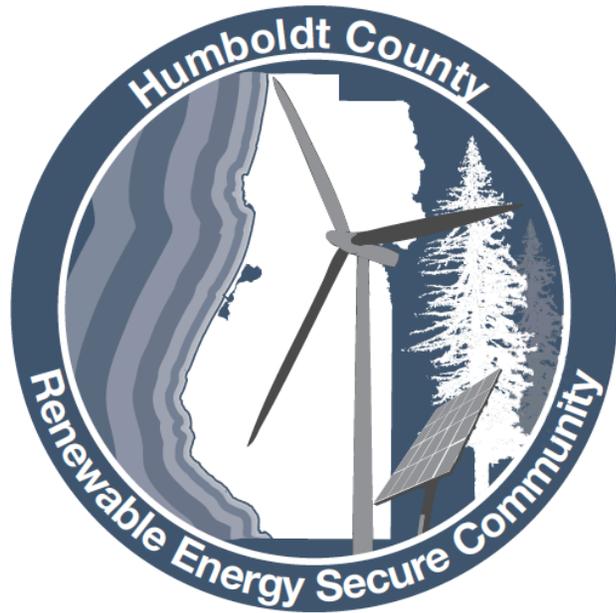
RESCO Stakeholder Meeting
Eureka, CA
April 13, 2011



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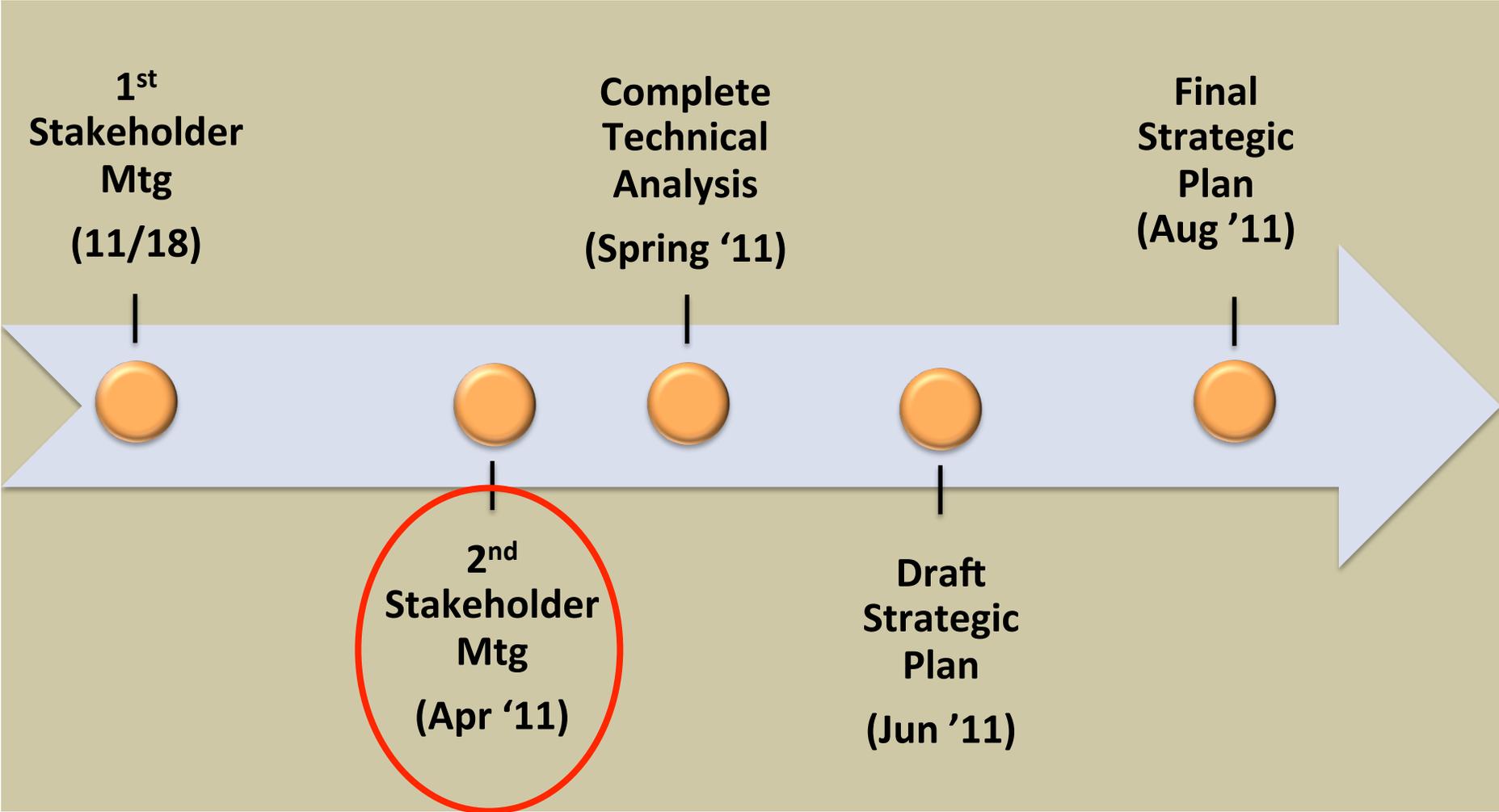
What is RESCO?



**Renewable
Energy
Secure
Community**

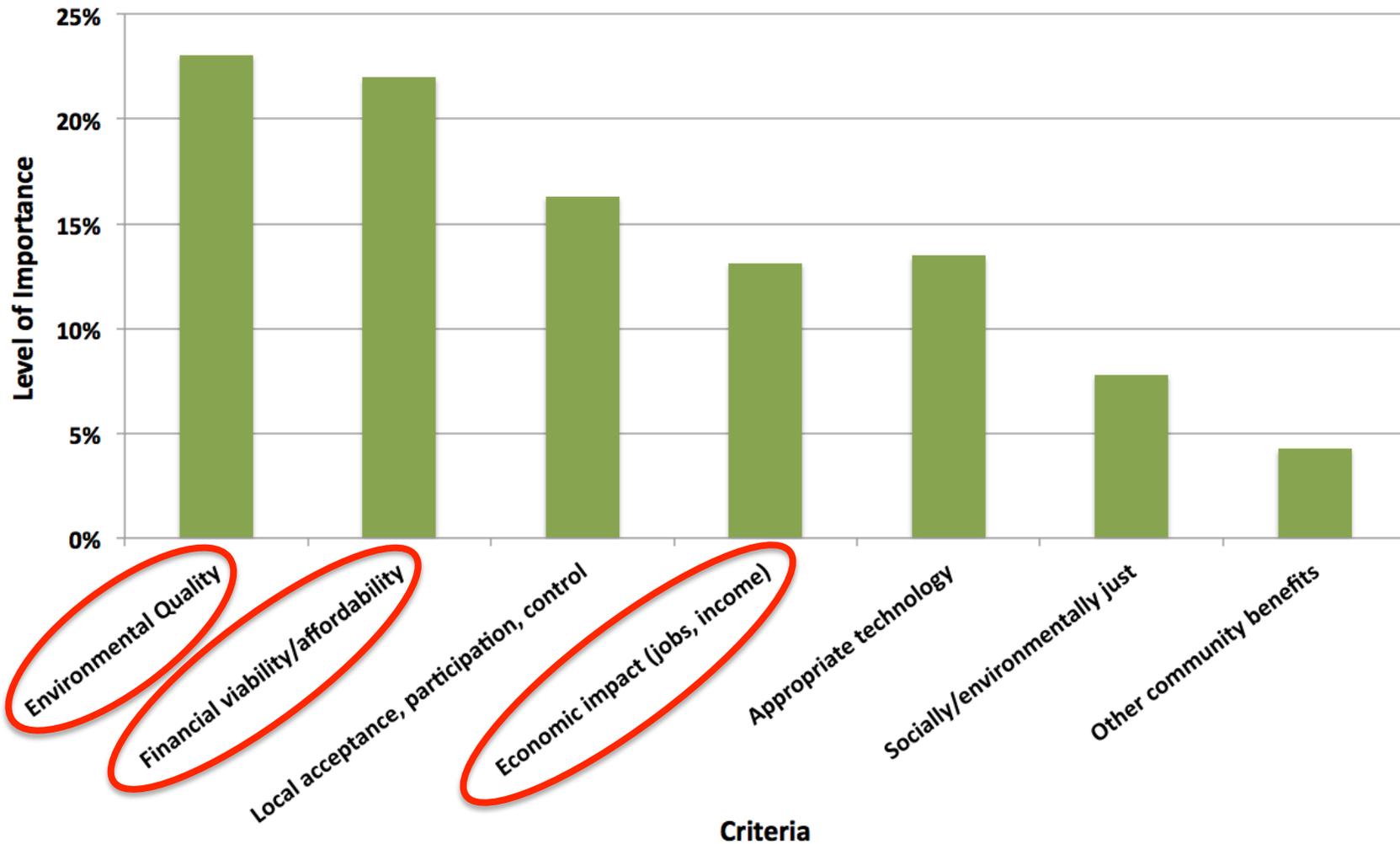


Timeline



Criteria Ranking

Humboldt RESCO Renewable Energy Criteria Ranking



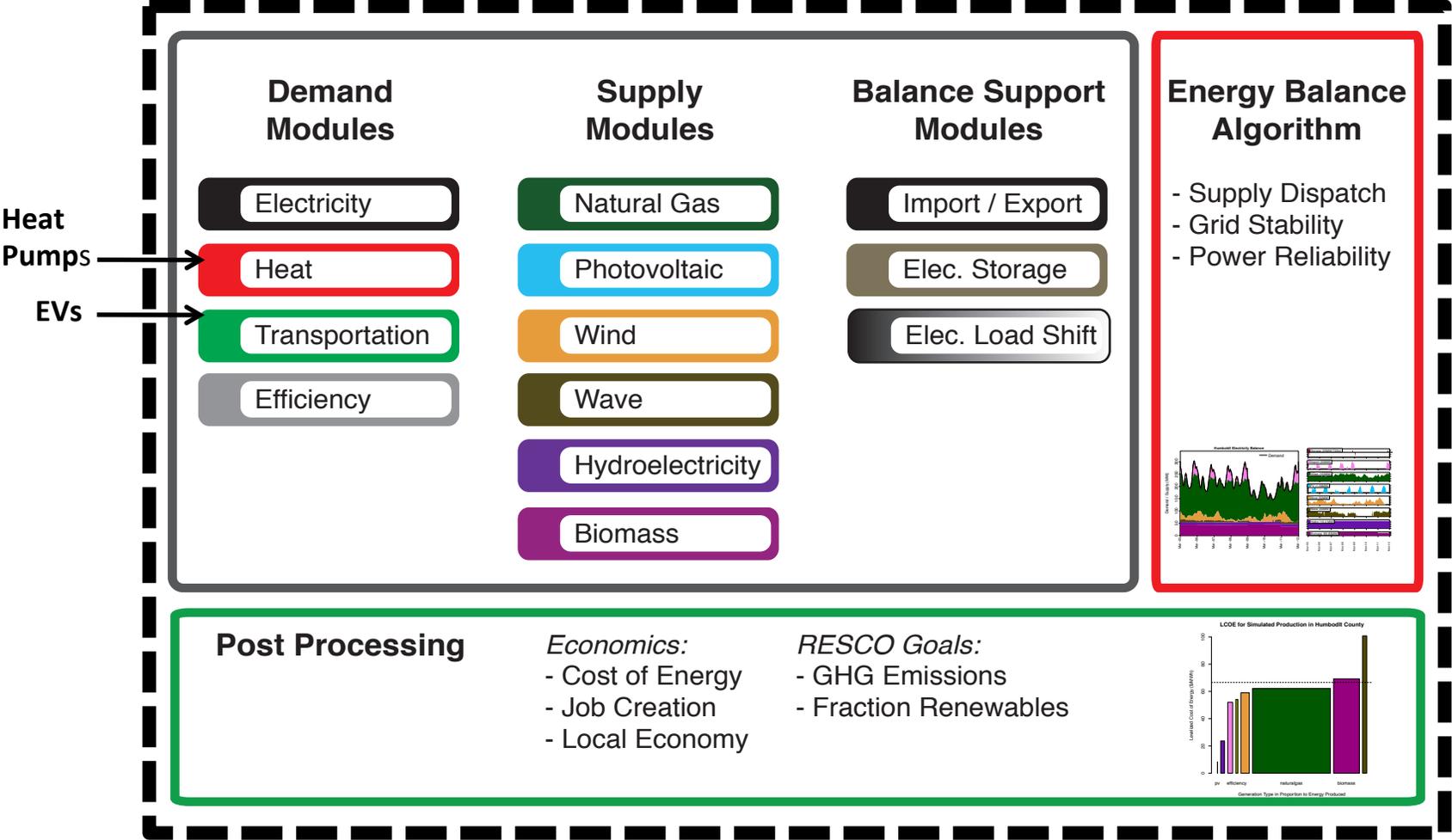
Technical and Economic Analysis

- ◆ Team of SERC engineers / researchers
- ◆ Assess ability to use local renewable energy resources
- ◆ Examine optimal mix (supply and demand side)
- ◆ Estimate:
 - job creation / economic stimulus impacts
 - greenhouse gas reductions
 - cost



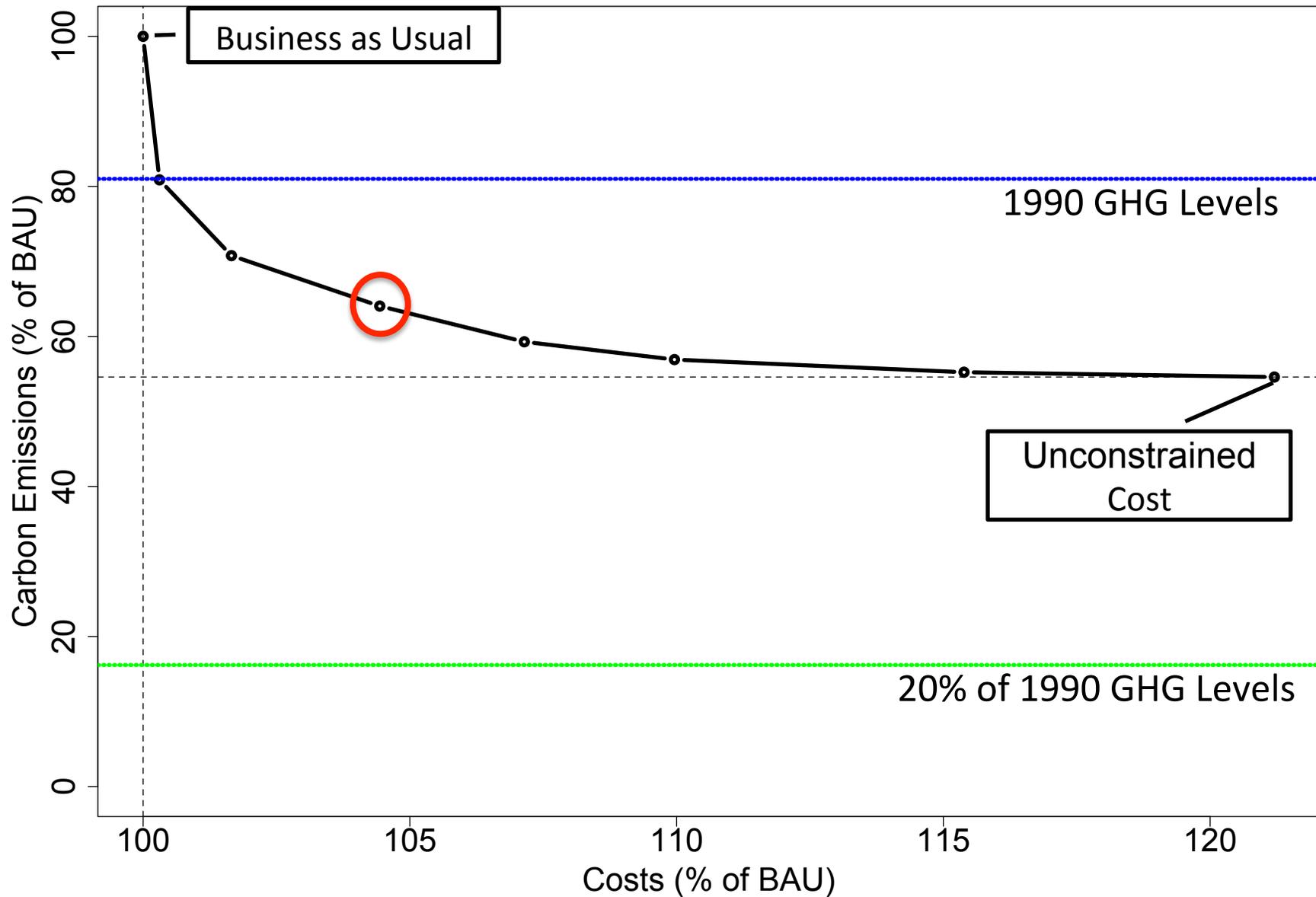
Model Framework

Key Inputs: Demand levels, Installed capacities

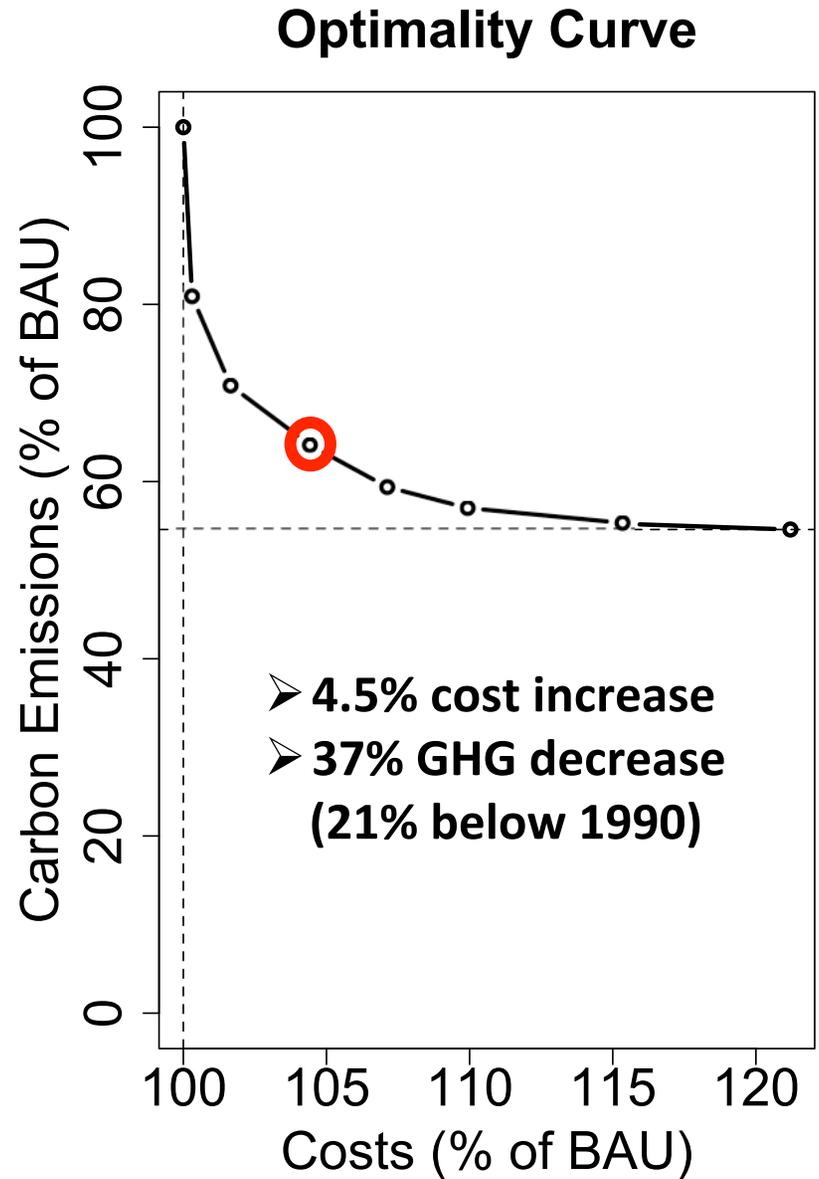
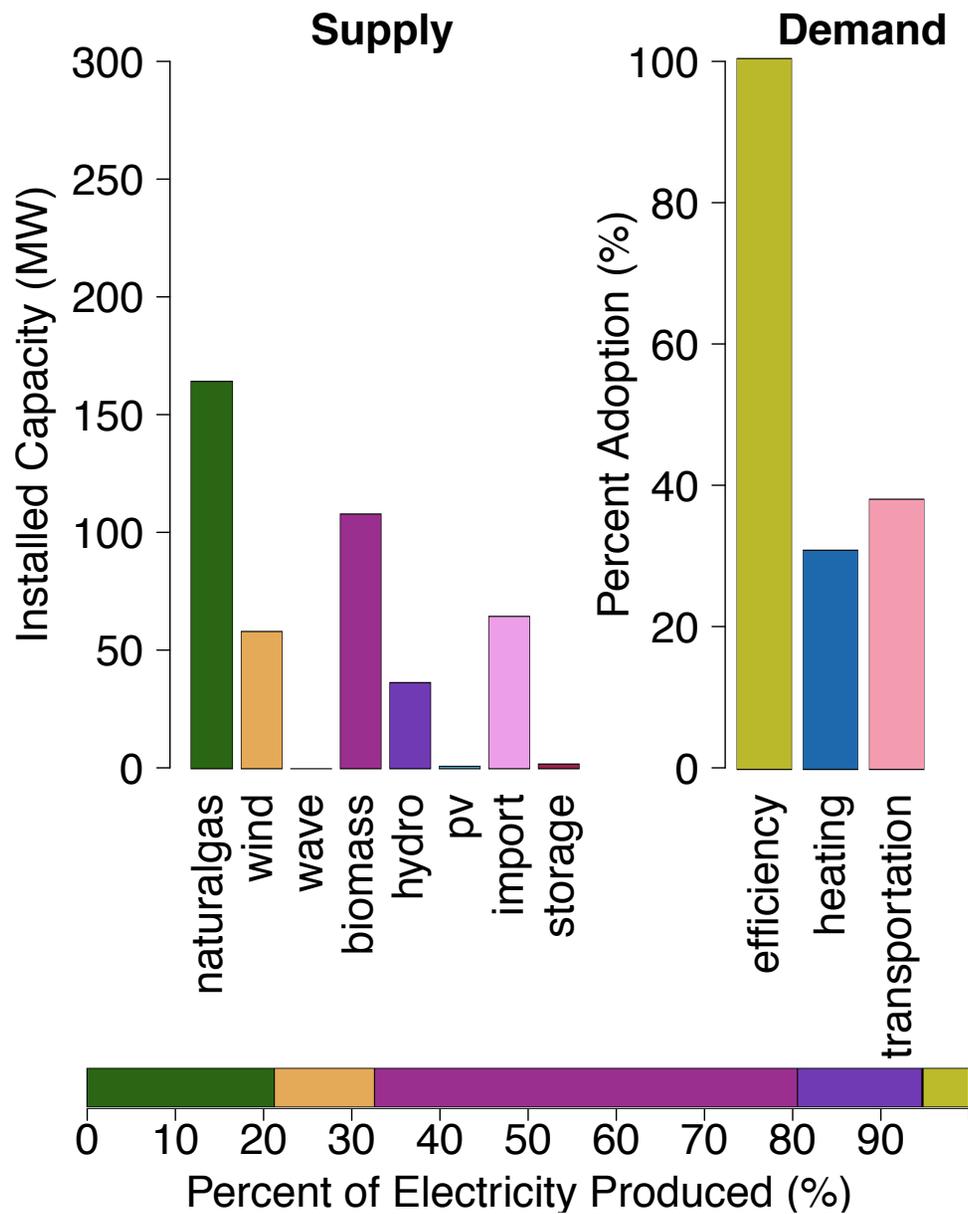


Key Outputs: Cost of energy, GHG Emissions, Service Quality

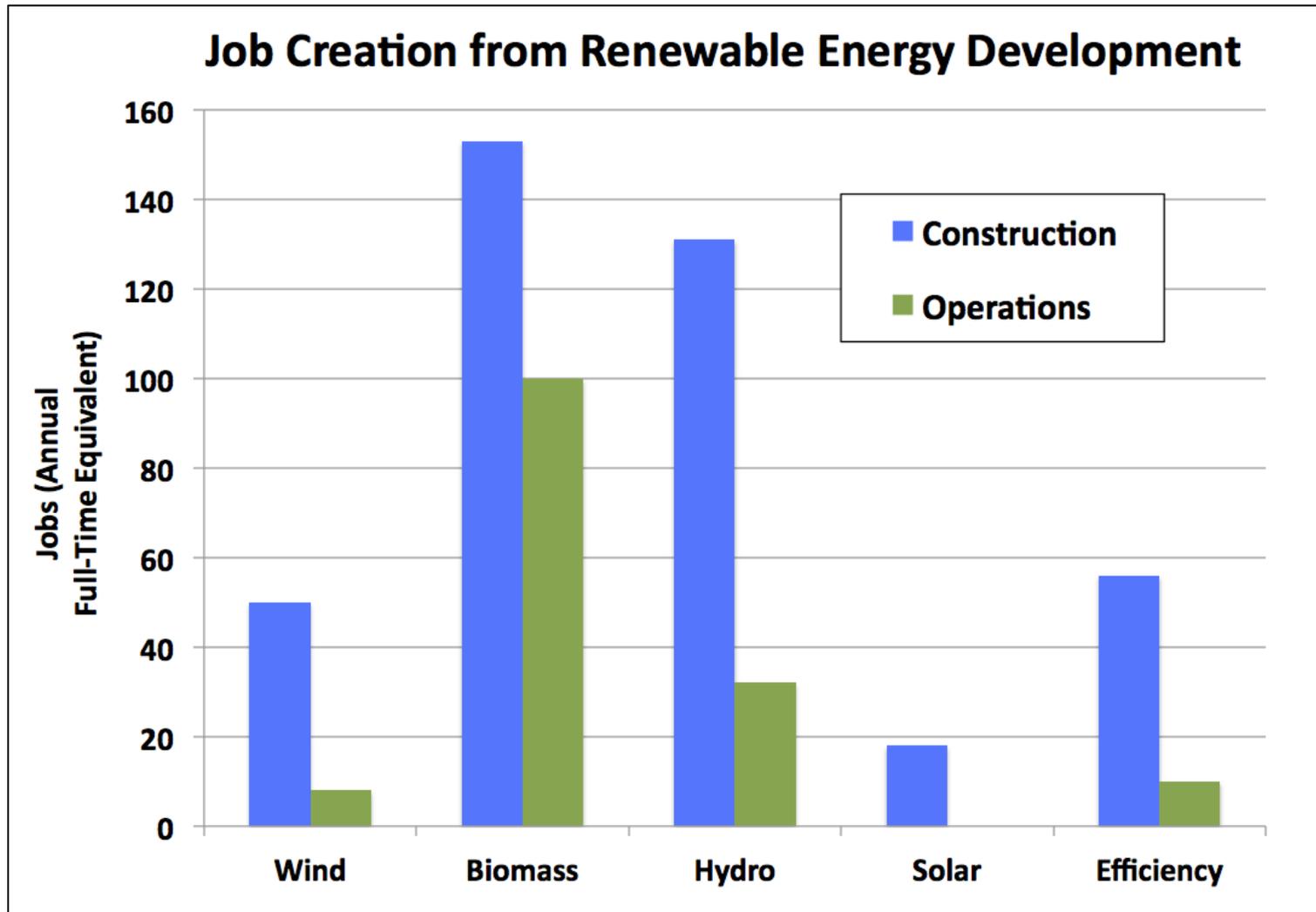
Sample Optimization Results



Sample Optimization Results

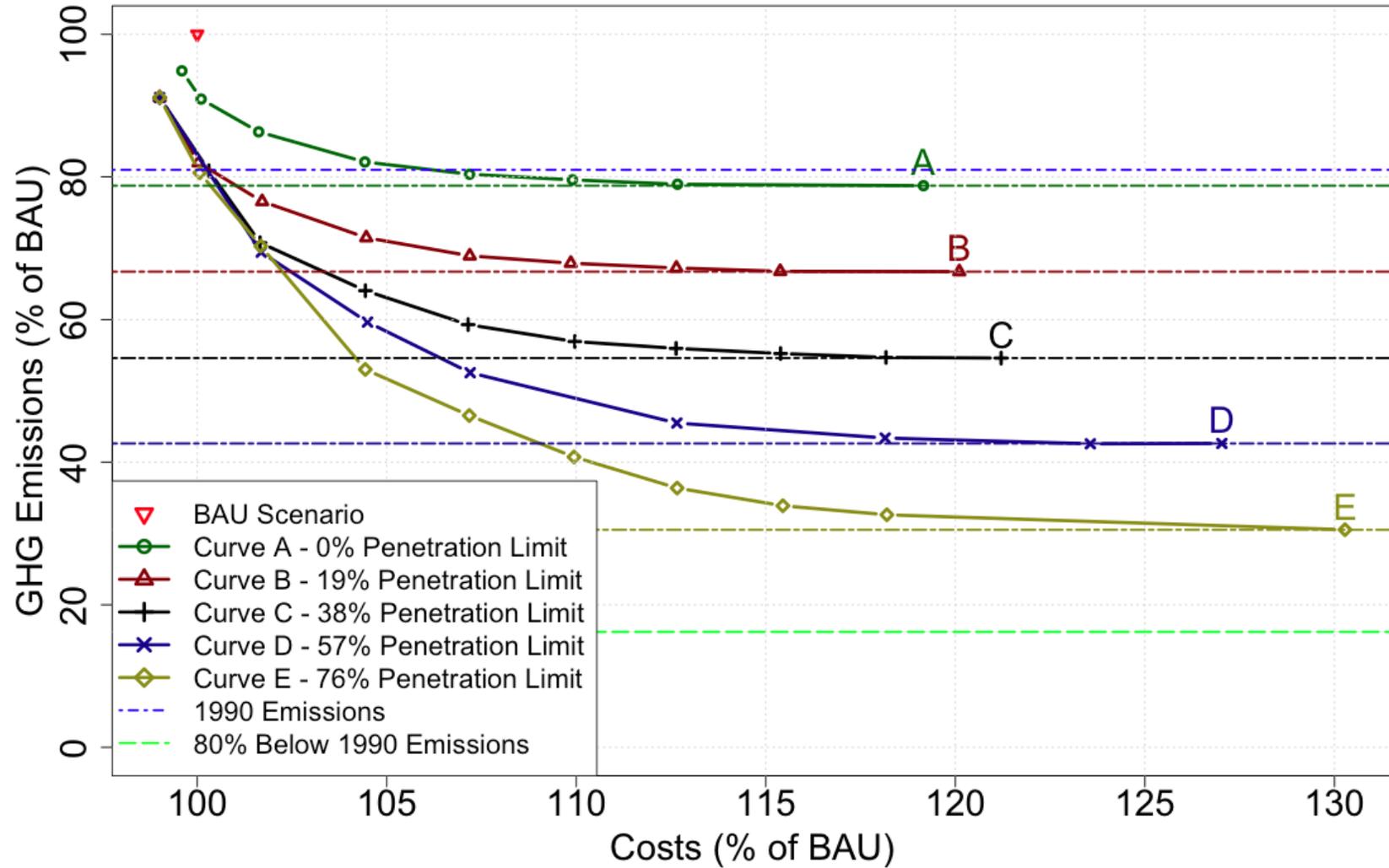


Sample Results: Net Job Impacts



- Net job creation = 408 construction and 132 operations phase jobs.
- Not shown are 18 operations phase jobs lost for the natural gas fired power plant.

Family of Optimality Curves



Key Lessons Learned

- We can meet a large fraction of our energy needs using local renewables
- We can substantially reduce our GHG emissions
- We can do this at a modest cost increase
- There are many possible resource and technology options to choose from
- A balance/mix between them probably makes most sense
- It is likely that biomass, wind and hydroelectric energy sources and electric vehicles and heat pumps will play a key role
- Pursuing energy efficiency is a no-brainer
- Distributed generation can play a smaller but important role

Trade-offs between resources and technologies

- Job creation, economic impacts
- Energy costs
- Environmental impacts



Possible Near-Term Next Steps?

- Shell Wind project (Bear River Ridge, 50 MW)
- Biomass – fuel reduction efforts, new generation facilities
- Small hydro development
- Food digester and landfill gas projects (HWMA)
- Adoption of electric vehicles (plug-in hybrid, battery EV)
- Adoption of heat pumps (with storage and smart grid)
- Step up energy efficiency programs
- Expand solar and distributed generation efforts



Small Group Work

- Biomass
- Wind
- Small Hydro
- Electric Vehicles
- Heat pumps and energy efficiency
- Solar
- HWMA Projects (solar, landfill gas-to-electricity, food waste digester)



Stakeholder Meeting 2 – April 13, 2011

Small Group Summaries

Wind Energy: Shell Wind Project

(Brainstorm)

- Potential to expand Shell Wind Project?
- Other locations?
 - Kneeland
 - Mouth of Eel River
 - Offshore

(SWOT)

- Strengths
 - JB is a regulatory pro
 - Expertise (resource assessment; endangered species)
 - Tribal entities can obtain \$\$ others can't (Stephen Kullman)
 - Can create jobs
- Weaknesses
 - JB is a regulatory pro
 - Upfront costs
 - Maintenance costs
 - Lack of funding connections
- Opportunities
 - Massive resource
 - Interest from Shell (Texas Co. interested in offshore wind)
- Threats
 - PG&E transmission study
 - Transmission upgrades (who will pay?)
 - Resource is remote
 - Coastal regulatory issues
 - Wildlife impacts
 - Public opinion/distrust (NIMBY)

(Action Plan)

- O1. Remove transmission study obstacle (too slow)
 - T1. Encourage discussion between PG&E and community
- O2. Get community more involved in regulatory aspect
 - T1. JB will notify stakeholder group through RCEA
- O3. Explore opportunities with Shell Wind to expand their plant in the future

Biomass Project Types

(Brainstorm)

- Heating (medium facilities)
- Pulp mill: repurpose
- Round-stock mill
- Pellet mill
- Torrefaction (wood coal)

- Fuel reduction
- More timber
- **Gasification at Simpson Site in Arcata (pursue in the near term)**
 - Fuel Sources:
 - Timber exports
 - Fuel reduction
 - Challenges:
 - Declining timber industry
 - Current raw log export
 - Community support
 - permitting
 - Players:
 - Environmental groups
 - Regulators
 - Timber owners
 - Financers/developers

Food Digester Project (Community Engagement/Support for FD Development)
(*SWOT*)

- O1. Develop support among commercial and industrial food generators
 - T1. Inventory of commercial and industrial food generators
 - T2. Engaging food generators/determine willingness to participate
 - T3. Educate food generators on quality control
 - Notes:
 - hire consultant (timeframe: 3-6 months)
 - CCRP has resources on inventory
 - Address contamination concerns; educate to reduce contamination
 - Implications
 - Grant funds
 - Project staff hired
- O2. Route development for pick-up
 - T1. Prove assumption – see if you can pull food waste out one week and pick up everything else other week
 - T2. Test route in Eureka
 - Notes
 - Timeframe: 6-12 months
 - if not cost neutral, figure out economics
 - weekly requirement for pick up law (could separating out food waste reduce health risk?)
 - Implications
 - Grant funds
- O3. Engaging additional key players (creating engagement plan to gather support for expansion after test route)
 - T1. Food waste producers (timeframe: 3-6 months)
 - T2. Elected Leaders (timeframe: 3-12 months)
 - T3. Media/Outreach (ongoing)

- T4. Youth
- Implications
 - Budget
 - Staffing

Research needs: Industry and commercial inventory/route development for food waste pick-up

Making Small Hydroelectric Systems Viable/Attractive

(SWOT)

- Strengths
 - 0 Carbon
 - Job Creating
- Weaknesses
 - Cost??
 - Remote locations
- Opportunities
 - 1980's Oscar Larson Report
 - capacity for distributed generation
 - Find Financing
- Threats
 - Permitting
 - No net metering
 - Transmission/distribution constraints
 - Battle of environmental goods (perceived and real)

(Action Plan)

- O1. Identify Opportunities
 - T1. Revisit Oscar Larson Report
- O2. Handle Permitting
 - T1. Develop permitting agency working group
 - T2. Identify permits needed for small scale development
 - T3. Identify funding opportunities to support permitting studies
 - T4. Develop model process (SERC Feasibility Study for Yurok Tribe)
- O3. Net Energy Metering
 - T1. Work with utilities to allow net metering for small hydro (set limits to discourage abuse/development of larger projects)

Energy Efficiency and Heat Pumps (Project Ideas)

(Brainstorm)

- **Public Building/Finance Heat Pump and Energy Efficiency mandates (pursue in the near term)**
- Educate contractors, everyone
- Better coordination between public/private agencies
- **Financing mechanism for residential/commercial energy efficiency and water conservation (Born again PACE) (pursue in the near term)**
- Implement Energy Upgrade California (develop longer-term program)
- More local funding

- Smart Strip program
- **Heat pump bulk buy pilot/demo program (“blow out party”)** (pursue in the near term)
- ID large retrofit projects → high visibility, energy use
- New hospital opportunities (green and energy efficient)
- Address schools (day-lighting)
- Demo Japanese CO2 heat pumps (commercial high temperature)
- Low-income assist—equity

Electric Vehicles: Stimulating EV Infrastructure

(SWOT)

- O1. Conduct analysis of the tech/infrastructure needs
 - T1. Look at travel patterns (commutes, between hubs)
 - T2. Consider business models
 - Notes:
 - CUB
 - CalTrans
 - Chambers
- O2. Pilot Project(s): Eureka, Arcata, Trinidad...
- O3. Engagement
 - T1. Youth Auto Shop
 - T2. General Public
 - T3. Key implementer
 - Notes:
 - Auto dealers
 - Charger installers
 - Parking lot owners
 - PG&E
 - Early adopters
 - Citizens, fleets
 - Permitting officials

Solar Investment Project – Plan to Lower Costs

(Brainstorm)

- Utilize county governmental entity to buy solar equipment in bulk (lower cost)
- Contract with local contractors to install systems at lower costs
 - Guaranteed work and lower material costs
- Standardize installations to lower costs (custom systems cost more due to time and expertise needed)

RESCO Stakeholder Meeting Attendance List, 4/13/11

Last name	First name	Organization	Category
Blodgett	Vanessa	Planwest Partners	Business Community
Crowley	Tim	North Coast Fabricators	Business Community
Elsbree	Dawn	Headwaters Fund	Econ Dev/Financial
Kraft	Michael	Small Business Development Council	Econ Dev/Financial
Lehman	Peter	HSU, Schatz Energy Research Center	Education/Policy
Stewart	Connie	CA Center for Rural Policy	Education/Policy
Katz	David	founder of Alternative Energy Engineering	Energy Industry
McKeever	Nate	McKeever Energy and Electric	Energy Industry
Talbot	Alison	Pacific Gas and Electric Company	Energy Industry
Tittman	Daniel	Greenwired	Energy Industry
Kaprielian	Jeannine	Sierra Club	Enviro/Energy group
Flynn	Laura	Redwood Community Action Agency	Enviro/Energy Groups
Blomstrom	Greg	Baldwin, Blomstrom, Wilkinson, and Associates	Forestry/Fisheries
Fry	Tova	Mendocino Forest Products, LLC	Forestry/Fisheries
Berg	Sid	Plumbers and Steamfitters Local 290	Labor
Seckelman	Leslie	Green Crew	Labor
Turner	Suzette	Green Crew	Labor
Lovelace	Mark	Supervisor	Political Leaders
Righter	Lindsay	Congressman Mike Thompson's Office	Political Leaders
Test	Jim	Humboldt Waste Management Authority	Political Leaders
Wilson	Mike	Harbor Commission	Political Leaders
Winkler	Michael	Arcata City Hall	Political Leaders
Woo	Sheri	Humboldt Bay Municipal Water District	Political Leaders
Bond	James	U.S. Fish and Wildlife Service	Regulatory
Kullman	Stephen	Wiyot Tribe	Tribes
Black	Abi		Youth
Ludtke	Jordan	Eureka High School	Youth

Appendix E: Youth Meeting Summary

Vision

Energy

- All buildings will be as energy efficient as possible.
- Renewable energy (biomass, tidal/wave, wind, integrated solar, small hydro) will serve as the primary energy source for electricity, heating, and transportation needs.
- Humboldt County will be free of its dependence on non-renewable resources (including petroleum) and will not include nuclear energy in its portfolio.

Transportation

- Residents will benefit from increased public transportation throughout the county. Buses and trains will run frequently and reliably from northern to southern Humboldt, while EV cabs will provide flexible intra-city transport.
- All transportation will utilize fuels that pollute less.
- The majority of residents with personal vehicles will drive vehicles powered by non-polluting fuel sources (biofuel/hydrogen/electricity). Humboldt County will have an established infrastructure for alternative fueling (including electric car charging), which will be utilized by these residents.
- Humboldt County will be more bike-friendly. Residents will ride their bikes for local trips, reducing the need for cars, and the county will maintain and improve its bikeways to support this system.

Community

- All Humboldt County residents understand what it means to live sustainably and do so to the best of their abilities.
- Energy efficiency/environmental/agricultural education is prevalent in schools and adult education and has resulted in an environmentally aware community.
- The ‘green mentality’ of Humboldt County residents is leveraged to stimulate the economy and serve as an example for other communities.

Sustainability

- The majority of Humboldt County's food is grown and purchased locally, thereby stimulating the local economy and promoting community health and well-being. Many residents participate in community farms and/or have their own home gardens and understand the impact of purchasing food shipped in from outside the region.
- Humboldt County is plagued by little or no plastic waste. Residents recycle the majority of their waste and utilize reusable containers to cut down on the waste they create.

-rainwater catchment system (catching rain for home use)

-Arcata Marsh for wastewater treatment

-self-sustained

The vision developed by the 35 youth engaged in this process will be integrated into the larger vision that was discussed by you, as stakeholders, at your previous meeting.

Criteria

The Youth RESCO Group developed the following list of criteria out of a small group discussion session. While the youth were asked to vote on which criteria they felt were most important to the consideration of renewable energy development, each person in the group emphasized the difficult nature of such a decision, as all of the criteria below are important and, to various degrees, interrelated. Nevertheless, the criteria are ranked in order of importance (as determined by two closed group votes).

**** Practicality: Assuming that the technology has been approved in terms of practicality, the following criteria should be considered in the development of any renewable energy project.****

1. Environmental Impact (63 points) – Any resource that is developed should have minimal impact on the environment locally, regionally and globally. The resource and its associated machinery should have little to no negative affect on air, water, and land quality and should not interfere with or obstruct local wildlife patterns. This criterion received the most votes by far (over double that of the next most important criterion). Youth felt this criterion is most important because of its wide-ranging effects on environmental and community health, both in the short and long term. Maintaining or improving environmental quality is the main goal of the youth involved in this project.

2. Availability to the People (equity) (27 points) – Any resource that is developed should be priced so that any person, no matter their income level or social situation, can purchase the resource and maintain a standard of living that promotes their health and well-being. It is important that the development of resources does not cause undue economic hardship to those already suffering. Further, it is important that development of new resources provide benefits and distribute costs equally among different income classes and communities. Low Life-Cycle Costs may contribute to increased equity, as the costs of construction and maintenance often fall on the consumers.
3. Future Effects (25 points) –Any resource that is developed should benefit and have a positive impact on future generations. This includes taking into account the availability of the resource for future generations to utilize, as well as the environmental, social, and cultural effects of long term maintenance and reconstruction and/or decommissioning. Materials associated with the capture and transmission of any resource should be subject to a cradle to cradle life-cycle assessment, with plans for how materials will be disposed of or reutilized in a positive capacity once they have reached the end of their energy-gathering days. High positive future effects and low negative future effects are desired. Where Environmental Impact is largely associated with the immediate effects of resource gathering and energy production on the environment, the Future Effects criterion ensures that renewable energy resource developers consider long term effects of that resource, not only on the environment, but on the community as well. As the youth of this community, and as those who will receive the benefits and shoulder the costs from these developments, participants were keenly aware that the impact of resource utilization today may be different from its impact twenty or more years down the road and want to ensure that those impacts remain positive.
4. Cleanliness and Efficiency (16 points) – Any resource that is developed should pollute the environment as little as possible and should be converted to the maximum amount of usable energy possible.
5. Economic Effects/Job Creation (16 points) – Any resource that is developed should create jobs within the local community and provide economic support therein. Creating jobs is important to the stability and well-being of the community, yet without ensuring

that environmental impact remains low and that the project has high financial viability, the number of jobs the project creates won't amount to much in the long term.

6. Expense/Life-Cycle Cost (10 points) – Any resource that is developed should have a minimal Life-Cycle Cost (that is, the amount of money it takes to assess, develop infrastructure, construct, maintain and decommission the resource gathering apparatus). Life-Cycle Cost should be low relative to the amount of energy that is produced by the system during its existence. While this cost links to the Future Effects criteria, it puts more emphasis on the monetary costs of the resource than the social, environmental and cultural costs. Low Life-Cycle Cost increases the likelihood that a project will be funded and ensures that the community takes the necessary steps toward reducing our impact on the earth, but it should not pre-empt the first two criteria.
7. Reuses Resources to Generate Power (10 points) – Any resource that is developed should be captured with machinery made out of reused or reusable products. In this way, a project can reduce the embodied energy of the project, as well as reduce the projects overall impact on the environment. While the Future Effects criteria encourages a cradle-to-cradle approach to resource utilization through the reuse of resources after their stint as energy gatherers, this criterion focuses on the use of recycled materials to create the machinery to harness energy in the first place. In this way, we ensure that the renewable energy machinery we construct has a lower impact than it would using new materials.
8. Proximity to Users (10 points) – Resources should be developed as close to their end users as possible in order to reduce transmission losses and the cost of distributing energy. Though sourcing certain renewables close to communities might have a negative effect on health, criteria 1, 2 and 3b ensure that the impact of any resource sited nearby is minimal.
9. Minimal Negative Impact on the Community (6 points) – Any resource that is developed should meet the needs of the community without creating an undue burden on that community to maintain. (While some people may enjoy using a stationary bike to power their TV, not everyone enjoys being so intimately involved with the energy production process.) Any resource developed should foster human health and well-being by emitting

few to no greenhouse gases, and it should generate the maximum amount of energy per quantity of resource captured in order to reduce its monetary cost.

While the youth acknowledged their idealism in putting environmental and community impacts above all other factors, they also felt that this was in part due to their focus on ensuring the long term health and sustainability of their communities. Further, upon comparing their results to those of the adult stakeholder group, striking similarities began to surface. Both groups put the environmental impact/quality as their most important priority. And, while the youth considered the future effects of resource development, they still put strong emphasis on job creation and on ensuring that project costs were low enough that they would have a high chance of getting built. Although we developed our criteria separately from the adult stakeholders, because the two lists were so similar, we feel that a slight change to the original list was important. It's important because it will reflect the opinions of our county's youth, youth that make up a large part of our community and will experience the long term effects of such changes.