**Interdisciplinary Multi-stakeholder Kick-off**

**Charette**

**May 23, 24, and 25, 2012**

**Southwest Research Institute**

**San Antonio, TX**

**A Research Coordination Network for Science,**

**Engineering and Education for Sustainability**

**on Climate, Energy, Environment and**

**Engagement in Semiarid Regions**

**(CE3SAR)**

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**CHARETTE ACTIVITIES DAY 1**

***CHARETTE INPUT SHEET NO.1:***

***Documenting Hats, Drivers, and Expectations***

**What “Hats” are you wearing today?**

* Public administration and policy scholar (sustainability)
* Researcher in community resilience, disaster management and homeland security policy
* Teacher
* Advocate
* Air quality (ozone) planner
* Academic seeker of new projects
* Aquatic biologist
* Aquatic ecologist
* Architect - Design Program Manager
* Biologist
* Concerned citizens (sustainability)
* Dean of science and engineering
* Director of Center for Subtropical Studies
* Ecosystem services and ecosystem-based management
* Education Program Development
* Energy & environmental researcher
* Environmental Economist
* Graduate Program Advisor for the new Interdisciplinary Masters in Sustainability Studies
* Graduate Students
* Librarian
* Marine/freshwater biologist
* Member RCN
* Nature conservancy representative
* Partner
* Principle investigator, organizer, cheerleader
* Representative / observer for UTSA-Institute for Economic Development
* Research development officer
* Sales Rep for Vantem Panels a manufacturer of Structural Insulated Panels
* Sustainable Business Program Manager
* Sustainable community developer
* University VP Campus wide facilitator for STEM (science, technology, engineering, and mathematics) initiatives
* VP for research development
* VP of Business Development

**What “Drivers” brought you here today?**

* To engage in the project
* Be interested in the project
* Facilitate and encourage faculty research and participate in the project
* Contribute to the project through dealing with climate, energy, environmental and nature challenges
* Contribute to the project through translating research into a language understood by both citizens and policy makers
* Looking for potential collaboration partners
* Meeting research, scientists, educators, and stakeholders to exchange ideas
* Promoting small business interests in South TX
* To connect consumer sciences to sustainability research
* Education needs for curriculum on sustainability
* Education needs for students’ funding
* Looking for a job.

**What expectations do you have for this gathering?**

* Learn how to participate;
* Seek collaboration opportunities in research and education, and proposal;
* Have a raw material for a strategic plan for the project;
* Have a clear research agenda moving forward with a list of priorities on possible focus for the project;
* Have a realistic idea of where possible funding streams in the future;
* Establish a network and create opportunities;
* Obtain broad base of inputs from various stakeholders that will be the foundation (or at least the seeds) of a five year strategic plan (FYSP) that is (i) broadly based, (ii) technically rationale, (iii) cost-effectively implementable, and (iv) informed by a full spectrum of stakeholders.
* Seek funding for graduate students research;
* Develop ideas for dissertation;
* Find work on meaningful projects.

***CHARETTE INPUT SHEET NO.2:***

***Documenting Initial Baselines and Reactions***

**Reactions from the “Gut”**

* *Alka Seltzer syndrome*
* Traditional sense of doing researches
* How do you reconcile long term and short term? It is not only research agendas!
* How to narrow down, focus, choose, prioritize, and do!
* If we continue to have this gap between industry, research, businesses, education, and academia, we need to close this gap!
* You all bring a wonderful amount of knowledge to the table but in addition to that, you need to bring a lot of experience. Knowledge is sometimes best practices, Experience is the lessons learned. We have to also put attention on wrong things.
* Let’s not talk, let’s do!
* It is a matter of focusing, identifying those areas and optimizing the best approach.
* Reaction
* Ambitious.
* Develop a source of interconnect for business and academia. We can all work and communicate ways to fund, research and construct things that work.
* Vast knowledge/expertise; need for a common language as we move forward. Clear “what do you bring to the tale and what do I want to input and export.
* Trying to identify what is going on at various institutions. Then discuss and discover what is left to do, then determine where the tasks that are yet undone or unassigned can be done.
* The overall objective is "devoutly to be wished," but exceptionally difficult to achieve in practice. There are fundamental barriers that must be broken down for success to be achieved.
* Too Complicated I will believe it will include social issues and social scientists when I see it. Could be cool but how will conflicting concerns and priorities be balanced.
* The network is striving to educate the general public about sustainability and to develop multidisciplinary partnerships. This seems like a noble cause. the tangibility is questionable: there is a need for milestones.
* laudable goals, complex can get everyone on board Pathway unclear to me Looking for side benefits
* My instinct is telling me that there will be a few break out individuals in the room today that will take the goals and objectives of CE3SAR and fulfill all of it's purposes. In other words, probably not everyone but a few will take this CE3SAR opportunity and really run with it!
* Coordination in planning and research is needed for South Texas so that the region can deal with future challenges.
* Develop networks of people interested in the same issues with focus to "highlight" research/policy/sustainability needs for "south south" texas
* Increase visibility of south texas environmental issues/problems/solving potential/teams

**Reactions from the “Heart”**

* A fear of what could happen if we do not do something about it: Water and Energy.
* A huge megaphone to give a loud voice to South Texas.
* Clean water is one of the basic rights for kids, real people, elders, adults: what we are doing is not just science, it ties to real life.
* Syncretism and hope! Accomplishing something meaningful to people: that lateral and provocative thinking, a little bit more creativity so world is not just science not just GIS, or not just public policy.
* Emotional happiness: Ecofriendly is real
* Uncomfortable feeling as a scientist!
* Where is our "happiness" drawn from? Long term vs. short term motivations; how will success and/or failure translate into a better place for our region.
* Want to be a part of a new generation in a new century of applied construction science that can provide millions of jobs and build millions of sustainable homes.
* We must list our data sources that give us information about the issues we've perceived, and scrutinize them: are we drawing the right conclusions, or acting from the heart?
* I love the idea that this is a interdisciplinary effort that is looking at completing applied research that truly benefits the people of south Texas, including those most vulnerable in the colonia communities. I hope we keep a focus on engagement with all stake holders. Too many times these efforts have elite status stakeholders and is not inclusive of lower-moderate income, rural or minority communities
* I feel really excited and "hyped" up about the potential of this project to generate new tools, technologies and ways of looking at our current natural resource (NR) issues and challenges. This was also a great opportunity for me to get out of my routine and hear what others think and some of the critical NR needs in South Texas.
* A new sense of optimism based on potential collaboration.
* I have a great sense of hope that the group will be able to move beyond the status quo. If not now, when? If not us, who? On balance, my "heart" leans more toward skepticism than optimism as we undertake this important endeavor.
* Has potential to alleviate issues in south texas to promote better education and research opportunities - need to include people at galveston!
* I am hopeful and excited about possibilities. I am concerned about the future well-being of humans and how to communicate using the same language as individuals in our targeted audience groups.
* We hope that CE3SAR will enable South Texans to deal with drought, wildfires and other effects of climate change.
* It’s a shame, networking can be efficient and research is hard.
* Asses how others will be affected by collective decision. Fear of success or lack of aspiration for a better existence.
* Motivation, excitement, commitment and dedication to help resolve this issue. I can’t wait to be part of the solution and not part of the problem.

**Reactions from the “Mind”**

* Fear is there is not a solid theoretical foundation of the approach we are taking, so this is a hypothesis and we are testing collectively. The ability to try, test, fail, learn, and get up: We don’t have an answer, or a road map.
* We need to find deliverables and see whether the matrix is successful or not- we need deliverables. What is the deliverable? How do we know it is good? What is the matrix? Is it innovative?
* Hope because we need to translate the research that we talk about here, research needs to be getting out from institution and need to be translated into certain practices and put it into work. If we do not do that, we are wasting time in here: How is the data going to be translated, how your ideas are transformative, broader impact how it benefits the society: Trans-disciplinary, trans-institutional, trans-national. However, no follow up from NSF about broader impacts. What can actually be done about it!
* Systems theory: There are several counties on Texas border: What is your system, and what is the boundary?
* Solid foundations but we can find success stories. If we succeed anything beyond the intellectual merit, opportunity is to set a new operation, the bigger picture.
* Resource- time, commitment, logics of deliverable to benefit all knowledge partners. Uncharted water, visionary state need more into action items.
* We need to carefully design any projects to that the output can be publishable in a variety of discipline not just hard science Silicone Valley teaches us to "fail quickly"
* Intellectually, those who take this project seriously will go on to publish in their fields but align their work with the goals, objectives and priorities of CE3SAR. I think this is the best and most practical approach [as opposed to being frustrated from trying to encompass too many goals and objectives in a single project or attempting to work outside one's normal field to accomplish the aforementioned.
* Yes. We (as part of the network) need to utilize existing knowledge and data, determine knowledge and data gaps and fill these gaps. This is especially achievable via multidisciplinary collaboration and nontraditional methods. I think education of youths, and business and government representatives is of utmost importance. Broader impacts should be framed in a way that they are included in publishable material or written in papers through collaboration with education researchers.
* Researcher will do what advances their own near and long term agenda and careers. The organizers should return the basic form of interaction to address this.
* I tend to think the science loosely defined as climate change, resources and population explosion is legitimate. I’m, not worried about mother earth. I’m worried about survival of the human race.
* We need to educate more influential individuals to make a difference or duplicate this type of conference
* real pragmatic results not some wide eyed craziness. We need to make it work.
* We need a few quick wins
* If implemented robustly, the network should be able to produce significant synergy and, from that, new approaches to deal with issues.
* From my professional experience, I do not believe academics are capable of working in a true team environment and are often too self centered on their own research priorities at the expense of serving a larger public good. Few in higher education, particularly those in the physical sciences have a public service ethos. For this to be successful the egos must be checked at the door and a focus on achieving a clear public good must be the central focus. If it is not the central piece, policy makers and citizen will not be supportive of this effort. The possibilities and synergies are endless but we must move out of our current paradigms to get there and for this to be successful.
* The overall proposal and general approach are well thought-out. There is no well established method or even a theoretical basis for what CE3SAR aims to achieve. I want to know more about what tangible results will be achieved; what are the deliverables and metrics for success?
* Is this really a new approach? What will be the measure of success? What are boundaries of project.
* what agenda does this workshop truely serve? - how will the science marry the policy and other issues which will arise as a result of the interactions?
* I'm not sure yet. Each research entity member is, but can they work together? Unknown
* Can science overturn economic interests in our region?
* Not sure if departments within a college can get along without politics much less different colleges share research.
* What are the systems we identify which frame the issues must be addressed? How do they work and interconnect?

**I like, like…**

* Cutting out big boys such as Michigan, or Stanford: We were able to do a proposal that was recognized.
* Partnership TAMU College Station as equal to small universities and institutions. TAMU is not the guide; this is a great opportunity to work together. TAMU College Station did not come up with the idea!
* Combining people with the science in the same sentence: there is diversity in the room, all kinds of science and technical fields.
* Making impact on society and real people! Academic endeavor and creating impact on society and real people.
* Gravity and black whole.
* I like the range of disciplines represented, the willingness to accept and hear different viewpoints, and the potential for new partnerships.
* I like the apparent lack of pressure from government/industry
* I like the fact that we are talking about education and public engagement.
* I like the innovative feel of the charrette and enjoy the excitement and enthusiasm in the room. I also like the fact that individuals have already been challenged to think beyond what they are used to, especially with regards to the kinds of questions that we are being asked to answer in this questionnaire.
* I like that there is research and data to create a plan of action. There is much common grounds
* It is focused on bringing together people having very diverse points of view.
* Hearing very different points of view and understanding the difficulty of organizing such disparate postures
* The apsirational aspect of this multi-disciplinary approach to evince challenges facing the region.
* that so many people have gathered for this meeting to give the concept a shot - the diversity of backgrounds and interests of the pople in the group - that NSF funded this !! - that there is an apparent "bottom up" push to keep this thing moving, that is, not too heavy with administrators
* Possibility of creating a foot print for an improved method of operation. Varying disciplines and expert are able to contribute to a solution. Community perspective, lay foundation for real application.
* A gravity well, but not a black hole, where we can all find a focal point for our combined ideas and energies. A group of interested parties who can develop and test solutions in a climate zone that is heavily populated around the globe and along the equator.
* Being among like minded folks is encouraging
* Has a solid theoretical foundation across a number of disciplines. But we must be able to explain our theories and practices across disciplines and learn the language of one another for this project to be the success it has the potential to be.
* drive research into real and practical solutions
* Nice people Fun to "cut out" the big boys Chance for Texas State to be a leader, not a follower
* Creating bridges between technology developers, technology users, and those impacted (for good or ill) by implementation of technologies. Engaging a spectrum of stakeholders and the organizations they represent. Incorporating and [potentially] integrating the strengths of a spectrum of disciplines.
* Networking Chance to make a difference Partnering with different fields Approach

**“Genie Wishes” (Aspirations)**

* Everyone takes one action and makes it done!
* Developing small workshop where we can write white papers: Exploring white paper tangible concrete things for further funding and publications.
* Get legislature and policy makers together and inform them about the research: Legislators want to be informed.
* Early involvement of public stakeholders.
* South Texas is a nice place to live, and keep it nice.
* Keep this enthusiasm going, momentum to continue growing and growing.
* I would like to see CE3SAR incorporate in its business plan a plan for communication to and with the general public. It will be necessary for the general public to embrace the need to deal with climate change issues proactively, and to fully support and engage in the development and implementation of solutions.
* A narrowing of focus and acceptance of realities
* Transcend above individual egos and seek a greater good outcome. Yielding a better tomorrow beyond my lifetime
* I wish that the energy, enthusiasm and drive may continue to resolve the problem that we are facing
* We actually make a connection with people in South Texas, who are able to use the results of CE3SAR to achieve sustainability in important areas.
* (a "wish" is a "hope") ...can what we glean from our discoveries be applied in real world circumstances: can science and research discovered in this charette process create a positive, economically sustainable future for our region?
* Money! Lets research it, plan it, develop it and put it on the ground...then duplicate it. It is the parable of the fig tree. If it does not bare fruit...
* I wish the group would be highly inclusive of all the stakeholders necessary to create lasting success. I'd like to see lasting partnerships between institutions and individuals that transcend the duration of this particular process.
* A multi-million dollar grant for a grouping of our organizations would advance our common purpose
* What I like best is the idea of having a network of academics from a variety of disciplines working with community members, businesses, non profit organizations and government and elected officials. This level of networking and collaboration is very interesting and dynamic. From a professional point of view, I am using to experience to learn the perspectives of those in other disciplines. From a university perspective, may get more research funds from this effort.
* Solutions and ideas that can be understood funded and implemented quickly
* Some really organized, good communicators are running the project so we don't get confused or lost Each part of the project had opportunities for students
* I wish that everyone would prioritize and follow through.
* I wish the results of this exercise could be properly understood and acknowledged by those who can make decisions to get results.
* Each person who participates in the workshop will be fully engaged while here and carry back to their organizations, colleagues, and communities an enthusiasm that is infectuous. Momentum, not alka selzer.
* that smaller workgroups in which the goal is to produce one page or so white papers or road maps of what and how and how etc... ; that is, developing bit size pieces that will lead to an overall positive outcome for many of the stakeholders
* Implementation of sensible balanced sustainable water use strategy Development of effective research collaborations Changing minds

**“Magic Wand” (Changes)**

* Better defined approach and process: change this fussy, and undefined to something tangible, how we can pose something that, engineers/entrepreneurs/academics can grab and run with it.
* Change the world.
* Have more open-minded people- they can interest community developments and all kinds of people.
* I would like to see CE3SAR consider expanding the partnership to include more non-governmental nonprofit organizations.
* CE3SAR is an organization, not a solution to EFF problems. I would wish for a well organized structure.
* I would change the tendency of those who think only in terms of “what’s in it for me” to “how can everyone in society benefit”
* Funding approaches. Immediate “bug in” for solution and establish common idea/language.
* Funding and influence/education
* Facts and a realistic understanding of the effects of decisions about water and the environment would become the key drivers of change in action by people and elected official.
* this is the opposite of 'making something/someone disappear'...it is to make 'appear' entities.....related to this region: a magic wand to bring moneyed interests (gas/oil companies, banks, politicians, lawyers) to the same table as academics, scientists, researchers, policy makers ~ to bring about substantive change. (The goals of this project is to bring about a cooperation.)
* Governmental regulations and fear of a litigious court system that make action so expensive.
* I'd like to change the political will that prevents reception of new ideas, avoids debate, and avoids the acceptance of valuable change.
* Our federal elected officials would help change federal agency grant priorities to favor more highly semi arid Wat/energy nexus needs we can apply for.
* If I had a magic wand, I wish we had a stronger economy and were not in severe debt as a nation as this will significantly impact availability of funding. Wish I could erase the academic paradigms that will lead some in the group to stay focused on narrow areas of research at the expense of the group. All must be open to alternative perspectives and ideas that are equally as valuable in the effort. There should not be a hierarchy of who does "better science" between those in the hard sciences versus those of us in the social sciences. Our research can be just as rigorous and critical in this effort. Having a GIS centric focus already creates a bias in the research effort.
* The silos of self interest around us come down and we can work for a common goal
* It seems the online education component is for undergraduates, can we focus on graduate students first? It will be easier to implement and can be a starting point. Can the focus be on sustainability education?
* If I had a magic wand I would change the behaviors and attitudes that would/are preventing everyone present from giving 100% effort, in his/her own capacity, to making CE3SAR a success.
* I would change the tendency of those who think only in terms of "What's in it for me?" to "How can everyone in society benefit?"
* Break down organizational barriers. [If I hear one more aggie "whoop," I think I'll scream!] Infuse "bravery" to confront university, community, and funding agency policies and pseudo-metrics that distract from achieving the overall objective of CE3SAR and the NSF program that is funding it.
* Generic support and recognition of the effort and that people involved are recognized as progressive even proactive rather than time wasters for participating/pushing/planning/etc
* Come up with a way to make broader impacts (education and public engagement) into publishable material. Perhaps via collaboration with social and education-focused researchers.
* People willing to invest themselves

**CHARETTE INPUT SHEET NO. 3:**

**Identifying strengths, weaknesses, Opportunities, Risks, and Threats (SWORT)**

**STRENGTHS:**

* Enhanced educational opportunities for TAMUCC students at all levels
* Enhanced educational opportunities for public schools throughout the region
* Solterra is actively seeking funding to cover costs from research to manufacturing to labor and occupation and use. Vantem has a national association of research to support the manufacturing needs if this building system is adopted.
* Greater effectiveness in reaching the regional planning goals and processes which we have. Greater protection of the health and wellbeing of the citizens in the Alamo Area Council of Governments. Greater communication between all stakeholders. Reaching solutions more quickly with responses that solve problems.
* CE3SAR would be a broad-based network.
* My university would become a central partner for funded collaborative research
* common goal and approach become funded
* Strength in Numbers If full implementation successful, being a participant may help to lend more legitimacy and recognition to the College District
* provide visibility of research and educational endeavors - provide $$ to expand, improve, develop and integrate mission of research/teaching to include more policy and public outreach and integration
* Access to specialized experts and facilities. More competitive teams can be formed for proposal development and project execution.
* Legitimizes my organization, the Safe Fracking Coalition, by providing access to input from scientists and professionals who can conduct high-quality, unbiased research. Research conducted by the institutes involved with CE3SAR is more likely to be accepted by people in this region because it takes into account cultural needs and values of people who inhabit the region.
* The implementation of CE3SAR is similar to the implementation of Harte Research Institute's mission. More at: http://www.harteresearchinstitute.org/the-institute/our-mission
* New collaborations Funding Higher profile Be useful Grow grad program

**WEAKNESSES:**

* None. Perhaps creating a bad reputation for sustainability research.
* Loss of credibility and trust with not only the community stakeholder but also funding institutional. How will failure impact future endeavors. Gun-shy about current collaborate continue or future collaborators
* Reduction in trend from community to financial partners
* Fewer opportunities might be available. Natural systems might suffer.
* Public criticism of the role of the RCN in promoting the concept of sustainability in a region benefitting from rapid economic development in the energy sector .
* Lack of cooperation in various sectors of the business community who may oppose what the network is trying to accomplish
* Polarized views of the network's purpose driven by the politics of the day
* Until the systems are integrated and proven, it may be difficult to get profit margins for builders and buyers to invest in the early implementation of these results.
* False promises, false hope means our organization failed and is weakened in the eyes of our stakeholders.
* CE3SAR may actually be splintered by factions within itself.
* Collaborative effort may require an investment of time/budget that exceeds Limited discretionary resources of our new university
* different entities and motivations others motivations
* May give the District Board/Chancellor/College Presidents a sense of diminished control or choice of actions
* Remain in the "dark" in terms of big funding agencies such as NSF, of politicans/policy/foundations who have the potential to injuect needed $$ and interests into efforts
* Experience to date is that universities want our organization to be involved in proposals, but marginalize/minimize our involvement. During execution, tasking by universities of non-university "team members" is commonly less than is in the proposal. Teaming with others--especially universities--makes contracting, publications, intellectual property, and other matters more complex.
* If CE3SAR is not implemented, the Safe Fracking Coalition will not have science to back up its concerns about environmental impacts of oil and gas development in our region. Our movement would amount to little more than words and idealism.
* It doesn't seem that complicated-- if we (or at least one of us or a combination of us) can't figure it out, who can?
* Expose institutional weaknesses Less pertinent Isolated

**OPPORTUNITIES:**

* Our participation as a stakeholder in this and future workshops might help us develop new partnerships. We might be able to ensure that the needs of nature are considered along with those of people.
* Becoming part of an organization that offers a broader set of educational experiences for students
* Recognition of those who earn certificates to start businesses that are appreciated in the community
* Opportunity for new partnerships. Working with entities or organizations that we have not traditionally given ourselves the opportunity to collaborate with. Work outside traditional comfort zones.
* Increased awareness/increase in credibility
* More opportunities for public engagement than currently in evidence
* Scientific information in formats that are readily digestable by public media (e.g., compelling mapping generated by GIS)
* None really, I am acting independently without using the corporate resources. No damage can be done from failed research or cohesive system implementation. This is the beauty of capitalism.
* Creation of more comprehensive programs dealing with treating threats and dangers. Improvements in the environment; returning the earth to a better, more fecund place.
* That CE3SAR leverage its network, its research findings, and science....to substantively make positive changes to environment and economy in the region.
* Working together with other organizations on common research efforts will strengthen the visibility of all of us and open future funding sources to us
* New technology introduced quickly easier funding pathways collaboration with others that might not occur otherwise
* Recognition/acceptance of the College District's 2-year Associate's Degrees for students who are transferring to 4-year schools Recognition of those who earn certificates to start businesses that are appreciated in the community
* Funding lines for new faculty/research programs - funding lines to develop funded/supported outreach activities which include salary for permanent staff/faculty whose goals are intercept between research/education/policy
* Potential for increased involvement in basic research projects that often are not available to non-university organizations.
* CE3SAR provides access to people who can conduct high quality research on questions that members of the Safe Fracking Coalition have identified for our region.
* Reach out to non-traditional partners and sources of knowledge. Measure success in nontraditional ways. A more educated public will lead to a more engaged and motivated public.
* Improve stature of university and college.

**RISKS:**

* We may need to help "fill the gap" in developing solutions for people as well as nature.
* None compared to other risks our institution-in-transition take.
* Not achieving
* Damage to institutions reputations
* Ability for students to transfer
* Heavy emphasis on academic outcomes with little to know approach at community level.
* May affect the integrity of the program and institution that we represent
* Misunderstanding of the mission of the university and the harm that may do to fund-raising efforts
* Risks associated with some organizations, especially non-profits, perceiving that they have been left out of the planning and execution of network programs
* Risks assovciated with the network's overlooking community resources that would be helpful to implementation of network activities
* Human nature getting involved and designs that work being horded and hidden under bushels so that nobody can share. Or a patent application that forces a single source of a system with an outrageous price.
* I see few risks from ambitious efforts to make improvements when those efforts have buy-in and support from the larger community. See my earlier notes regarding stakeholder buy-in, which I assume moving forward. There is always the risk of failure, but that's just life.
* That CE3SAR do nothing ~ leave a NSF grant study incomplete and lose momentum gathered with the consortium --or cluster-- it seeks to create.
* Opportunity cost of not working together during the life cycle of Eagle Ford Shale would be incaluable
* funding polictics environmental hazards technology failures or not meeting expectation (over hyped)
* Not achieving - Damage to the institution's reputation Not achieving - Ability of the students to not transfer to upper level schools
* As funding continues to decrease, loss of people
* Continuation of the status quo research paradigm is a likely outcome despite the effort invested in CE3SAR. National resources (i.e., NSF funding) may end up be squandered by disjointed efforts that are driven by personal and individual-organizational objectives rather than true needs of the region, the nation, NSF, and CE3SAR. An example of the above is a strong indication heard many times in the workshop that (i) universities don't give "credit" for involvement in such activities and (ii) the pressure is strong to do research that is within one's control to complete and get published, regardless of that is what the region and stakeholders need.
* If CE3SAR is not implemented, many people in our region will face polluted water, air, and soil; impacted ecosystems; and health impacts (especially for sensitive groups.) However, without good science to help people in our region find out where the pollution is coming from, it will be nearly impossible to prevent the pollution from occurring.
* Unrealized collaborations Lost funding opportunities

**THREATS:**

* Same as for risks.
* Perhaps creating a bad reputation for sustainability research.
* Loss of credibility
* Loss of time
* Loss of or strained partnerships
* Burden of explaining non-achievement
* Loss of investment.
* Credibility, well this continue or is this just a onetime thing.
* News media misunderstanding or misinterpretation of network aspirations, especially as this regards economic issues in regional communities
* Attacks by groups representing various political constituencies perceiving that the network is elitist
* None really. The technology is almost 100 years old.
* There may be political risk involved with addressing particular efforts. Climate change is certainly one. This might create risk to other programs for the agency within which I work, the Alamo Area Council of Governments.
* Other, more powerfully connected regions, will zap the life out of our region; forcing a power shift to an external place (may be global re-direction of human capital).
* Private industry may take on their own R&D rather than look to academic community for research solutions
* NIMBY competition our upper management disagrees with approach
* It is not clear at this time what constraints exist or will be imposed under CE3SAR that will restrict how SwRI involvement will further fulfillment of the SwRI mission.
* If CE3SAR is not implemented, the citizens will continue to lack environmental research that is significant to our region. This makes the people in our region especially vulnerable to toxins emitted by corporate polluters who have more political leverage than citizens who don’t have science to back up their concerns about the environment. Additionally, research that might be taken on by institutions outside the South Texas region potentially does not include the nuances of an insider’s perspective and might be taken less seriously by the people who live in South Texas.

**OTHER COMMENTS:**

* Perhaps creating a bad reputation for sustainability research.
* Move beyond the dream- create realistic action steps to create a real product outcome beyond more research.
* This is one of the most wonderful opportunities to make change foe south Texas. Many wonderful educated and motivated people gathered, can the educational and institutional boundaries be cleared and work together?
* Now is the time for shared effort toward a noble common purpose -- finding solutions that protect the environmental commons AND encourage economic development in water/ energy nexus
* Globalism remains the key element to CE3SARs effectiveness: lack of South Texas region to compete globally with China, India, Brazil, will be harmful to our region.
* Time's up.
* I am really very ready to identify issues, resources, stakeholders, existing programs, and other specifics necessary to chart a course for action.

**CHARETTE ACTIVITIES DAY 2**

***CHARETTE INPUT SHEET NO. 4:***

***Identifying Burning Issues and Hot Buttons***

**Burning Issues: QUESTIONS that CE3SAR will attempt to ANSWER**

**PROBLEMS that CE3SAR will attempt to SOLVE**

**NEEDS that CE3SAR will attempt to SATISFY**

**What are the OPPORTUNITIES that CE3SAR will attempt to REALIZE?**

**What are the ASPIRATIONS that CE3SAR will attempt to FULFILL?**

***ENERGY***

* Broad research objective comparison among energy sources and impacts those threatening the South Texas. **Diversity of sources**
* **Time scales** for various energy sources, control fusion for endless energy. What other steps, how much other sources, there is a tendency to think about short term.
* Infrastructure for energy downstream upstream and endues, whole lifecycle, running one place instead of running all others, one industrial site for generation: **Spatial distribution**.
* **Centralized & decentralized distribution**
* Taking land away**, collateral effects**
* Need for **Clean energy technology for coal**
* **Jobs and social impacts** that energy is causing
* **Economic impact** of energy
* Coal has negative impacts: Can we replace those jobs with something else? So we need alternative energy sources. **Replacement and transition among sources**
* What are the energy needs of the regions? What is dominant? What is going to be the contribution of coal if it will stay? Identify available energy sources for targeted region, economy within the region and what are the trends for population energy needs. **Start locally**.
* What is the current regional atlas of energy? What do we have? What could we have to get a transition? **Looking at benefits and direct impacts.**
* Energy is not **regional**. Human health and ecological level is local but economic effects should not be **local**.
* **Vulnerabilities.** Controlling time and money. What are these **factors and vulnerabilities to the existing sources of energy**? What **policy issue** should be addresses?
* Natural gas engines for South Texas. Texas is historically leader in oil and gas.
* Cost streams
* **Waste** is going to be an issue in the long term: short and long term issues
* We need to design something: **design oriented view for South Texas**
* **Planning, design and strategic focus** for what is best for South Texas
* Corridor of Laredo to Houston: where to start
* How can we foster **entrepreneurial mindset**: economy, we have infrastructure for that
* Leverage and opportunity here in San Antonio: **Politics**!
* Nuclear for electricity?
* **Reducing usage**, how much energy is used in the region. Urban concentrations are very energy efficient.
* How do we fund the research or project? Role of subsidies and can be used to spur energy efficient use. But it depends on **government policy**?
* **Use of subsidies**
* Exploring what other work could be used or **synergies and dependencies**
* **Solutions**: High-tech, or appropriate indigenous or local.
* Economics, and politics are involved in energy
* If only focusing on new homes, huge **energy savings**
* Cost of energy will not come down. Associated with educational components in terms of how we use energy: innovations. Short terms needs, Use and reduction of demand.
* Entry points of **achieving energy goals**: lowering energy use versus increasing the level of decentralize smart grid…
* **Education and behavior** are linked for energy use. Economically driven or necessity. (Micro grids in colonias: residents can pay for their)
* **Profitability in the region**. Where is the live behind? Colonias? How much the value stays here? Need for corporation of large businesses.
* Why wouldn’t CE3SAR address education, behavior to make higher living standards? It is here!
* Distribution of wealth. **Production + retail profit**
* Let’s look at alternative sources of energy **by local approach.**
* Education: colonias are more educated in terms of hunger and their creativity is higher.
* Waste of Money
* Maximizing their profit to protect the consumer
* (Reducing 30% of water in Dallas area) Politics
* Lack of continuity in issues, **life cycle mentality of true cost and value**
* **End-user**: how would it impact on low-income families? Long term cost-benefits and environmental benefits? Monetary or Non-monetary point of view.
* **Collateral benefits:** property values, quality of life, last longer houses,
* **Education of appraisers and banks**. The powers of actors that make it go wrong.
* Energy budget of US or South Texas, (private and collective transportation 30%) built environment 65%, industrial uses 20%.
* What is our **energy budget**?

**Hot Buttons**

* Full Cost
* Indigenous Techniques
* Diversification, Cycle
* Conservation
* Incentives
* Policy And Infrastructure
* Clean Air Technology Of Coal For Power Plants
* Regional Energy Sources And Explore Them Economically
* Lifecycle Available Resources
* People’s Perception Towards Politics And Behavior
* Distributed Generation Based Upon
* Customer Base
* Local Entrepreneurial Spear On Double Glazing
* Let People Know Their Energy Use And Savings
* CE3SAR: Policy Makers And Kids (icivics.org)
* Reuse Of Waste Streams
* Behavior Modification
* Usage Assessment And Education Dissemination
* Trophy Trees

**SESSION 5B:**

***EDUCATION AND OUTREACH:***

* Training For Trainer and Educators
* Engaging Policy Makers
* Need for who is doing what in South Texas
* Identifying sustainable funding partnership
* Defining simple solutions that are relevant
* Change in curriculum in high school level so it is a great opportunity to combine it.
* Effective volunteer programs
* Sustainability seen as an add-on, look at areas to integrate it.
* Social justice
* Institutional barriers to collaboration
* Environmental impact on alternative energy sources
* Demonstrating stakeholders to cost effectiveness
* World Bank: grandmother teaching their grandsons.

***WATER***

* Water resource management from a regional perspectives
* Rise and shift between
* Assessment, need for rational and scientific assessment
* Earthquake problems
* Balancing human needs
* Effectiveness of engagement in public policy
* Cyclones in bureaucracy in water resource management
* Need partner with state agencies
* Need Integrating the region
* Need to connect in each other
* Seamless water management across region
* A common language to talk about these issues to research community, colonias, high school…
* Branding
* Discounting of scientific research on sustainability
* Water allocation
* Water accountability

***CLIMATE CHANGE***

* Scale: local, regional, national, global
* Credibility and trust
* Jargon problem
* Think holistically
* Get South Texas on the academic map
* Eagle ford shale

***RESEARCH DEVELOPMENT***

* SYSTEM BOUNDARIES
* Definition of sustainability
* Sustainable economic development
* Energy development
* Communication, engagement, stakeholders
* What are we trying to measure?
* Building codes, problems!
* New materials, energy conservation, housing construction
* Layout of towns for long term sustainability for the region
* Real cost of water
* Commercial agriculture
* Access to sustainable practices
* Need for paradigms to engage stakeholders
* Sharing results across institution
* Partners to regional sustainability
* Federal response to climate driven issues
* Climate issues
* Effective ground water management strategy
* Have lot of resources in the area
* Need to develop building codes
* Population growth
* Food safety
* Previous and existing networks must be studied
* Land use management, best practices
* Town structures, community development for energy efficiency
* Desalination
* Responsible production of secure energy sources
* Understanding the caring capacity of South Texas is important
* Constituency engagement
* Sustainability as an economical driver
* Program for informing political

***SESSION 5C:***

***Agenda needs to…***

* Frame research agenda and continuum between local regional and global

How big is global and small is local?

Validation: how do we connect those have political influence if you don’t start locally you cannot connect local politicians but we cannot stop there we need to take it to state level and to global.

* Address connection between policy governance and existing structure and technology education communication. Nexus needs to be addressed very formally
* Visualizing or mapping what we have and we aware
* Make sure work keeps up going
* Be Explanatory
* Education awareness understanding branding needs to be in the agenda
* Fear of mitigation
* How we inform government officials
* Form of jargon,
* Data, Information, knowledge, experience
* Funding: Agencies at state federal and foundation levels. NGOs, institutions in South Texas. Networking & Engagement of CE3SAR
* Impact stakeholders where the money will go
* Tools for networking. What other network existing? How well they are what can we learn from them? How can we improve network? Network itself is object of research, investigation and problems. Connection between the nodes
* What are your deliverables from this network?
* A good solid baseline on existing research done in South Texas. How can we become better than existing? We want to build on existing one.
* Desalination, flooding, fresh water influence
* There is point of departure, metrics,

**Supplements**

***QUESTIONS that CE3SAR will attempt to ANSWER***

**ENERGY**

* Renewable energy dev. vs. Environmental Protection
* Wind and solar
* How do cut the line of energy needs

**CLIMATE CHANGE**

* How will climate change affect phenology? Reproduction cycles might shift so that they are out of sync, affecting biological interdependencies.
* How will climate change affect predator/prey relationships? Pollinators?
* How can we predict how climate change will affect a small-scale region?
* How can we predict/adapt to events such as megadrought, megafire?
* How will climate change alter our conservation strategies?
* Optimum habitat/environmental conditions for many species may shift geographically, yet species may not be able to move their ranges due to barriers. Which species are most at risk, and how should conservationists address this issue?
* Electrical/energy distribution grid integration to facilitate development and use of various energy sources--particularly renewables--where the supply and demand over diurnal and seasonal periods are not synchronous.
* Comparison of monetary and non-monetary costs and benefits of each energy source, as it relates to South Texas, on both temporal and spatial scales. We need to do this sort of comparison so that consumers and government decision makers can guide energy use policies. Considering that the environmental benefits of improving energy efficiency are already well known, more research is needed to learn what behavioral and political barriers exist to implementing energy efficient technologies on a broad-scale. Need more research on the impacts of climate change on South Texas, and these impacts need to be communicated to people. Education efforts can be formal or informal, but ultimately need to engage creativity to implement solutions.

**WATER**

* Freshwater inflows vs. upstream urban development needs
* Defining appropriate freshwater inflows to bays and estuaries in conjunction with efforts currently underway - defining expertise across the state - local versus state issues which can then be addressed - defining "critical needs" for science, for people, for education to address in the current and future WATER needs
* Quantify relationships between energy and water supplies and demands.
* Quantify environmental impacts of energy production and water use.
* Need for a probabilistic assessment of energy and water supply and demand.
* Is there enough water What is the (people) carrying capacity of south Texas? Can quality of life be maintained? What is role of Mexico in this process?

**RESEARCH & DEVELOPMENT**

* How to create a sustainable model of operation, communication, fund development, and implementation which can be utilized by various practitioners.
* projection about sustainability (water resource, limate change, etc.)in the future; What issues resulted from sustainablity status; What is the solution; What policies the government should establish.
* Maximum profit thought process is stagnating the growth and implementation of new ideas into community development.
* We have a clean slate in S. Texas with the financial resources to plan, design and build things that make sense.
* Recommend data gathering for air emissions inventories to support sustainability. Eagle Ford shale development is creating challenges to sustainability
* Need to incorporate socioeconomic and behavioral elements and perspectives into energy and water needs, priorities for use, and balance of demands across stakeholders.

**EDUCATION AND OUTREACH**

* South Texas higher education goals related to demographics/undergraduate and graduate education
* How to form a network that helps and lasts
* What topics should be taught to address goals?
* What topics are not already addressed by network facilities?
* Is there a hierarchy of critical “education First” topics?
* Should some topics be specialized at specific campuses
* Can we split education to different delivery modes
* Creation of tangible education models which will have practical implementation at various levels. (Academic, professional development and community).
* How do the families of various social/economic levels USE water/energy and what role does housing/appliances play in this use? What education and improvements need to be made to smart metering and/or smart grids to increase adoption and effectiveness?
* Which consumer education programs (looking across national and international) are most effective at changing household resource consumption and how do they need to be adapted to serve South Texas?
* Who is the audience we are reaching out to? Are there metrics for measuring educational endeavors? public engagement? What is the best method to reach out to the public (or targeted groups within the public)? decision-makers? children? legislators? etc... How do we motivate the public to learn?
* Identify audiences to engage (at front end of research)
* Develop audience-tailored messages
* Determine methods of dissemination (media, groups, extension) for each audience type
* Training for trainers/ teachers/ outreachers
* Which existing programs can be used/adapted?
* How to we ensure the sustainability of our efforts?
* Conflicts of values exist.
* We need to identify obstacles…
* Engagement at the household level
* Neighbors educating neighbors
* What methods/ types of people will we use?
* Cultural considerations need to be taken into account—language (Spanish and English)
* Who else needs to be included? (other groups need to be included at the front end that are not well-represented here today , for example: NGOs and grassroots orgs)

***PROBLEMS that CE3SAR will attempt to SOLVE***

**R&D**

* How do we balance development with protection of natural systems?
* How can we achieve sustainability while protecting nature?
* How can the region adapt to a possible future of long-term and extreme drought?
* How might sea level rise affect the region's economy (tourism, recreation, fisheries, shipping, etc.?
* How should the region adapt to sea level rise?
* how to sustainably plan for the "aftermath" of a boom cycle?
* System analysis approach
* Freshwater inflows
* Renewable Energy
* Lack of convenient infrastructure for participating in solution of common problems.
* Finding non-hanging fruit elements that would be easy/affordable to implement (truse generator)
* Set standards
* Set goals
* Distribute these to the economic development corporations in the region.
* Enforce HERS Scores in the new construction as well as retrofit of existing stock.
* Sustainability is an "add on" but should be integrated across groups and sectors (education/industry/NGO). Sustainability is often framed in a way that does not explicitly include social justice. Basic or systems research does not include families and their needs, motive and behaviors to an adequate extent. There is a lack of people trained in effective sustainability education and a lack of research on what makes effective education in our region.
* Efforts, "multidiciplinary" business support-- one businesses waste is another's input)
* Not enough water. Not enough energy. Inadequate infrastructure. Entrenched approaches/thinking
* Funding!; Leveraging other opportunities, alternate funding sources—industry, legislators and local government need information in clear language
* RCN agenda fit with individual research agenda
* Sustainability framed around environmental issues and does not include social justice

**ENERGY**

* How should the region balance increased energy development (such as the Eagle Ford shale play) with water conservation and protection of natural systems?
* Renewable Energy

**WATER**

* How should the region balance agriculture and water conservation?
* How to determine, accommodate, and/or limit high-demand use of water in agriculture, shale resource development, etc.

**CLIMATE**

* How do climate impacts compare to other human development pressures on the near and long term? By how much will climate change affect water supplies over the near and long term, and how does that compare to population growt
* Air emissions inventory work that encompasses carbon, particulate matter, sulfur dioxide, ozone precursors and other "criteria pollutants." (reference http://www.epa.gov/air/criteria.html) also: link with local governments for needs-based research associated with local environmental issues.
* distributive self contained use of different cooling approaches for new

**EDUCATION and OUTREACH**

* Acceptance of the education among schools, community groups, local government, utility companies, state commissions
* Research effective education methods in various population and regions (must be culturally effective).
* Adaptable education model, that addresses school (elementary, middle and high school), commit college, university, faith base, media, government and community base (door to door) community needs such as community health, workers.
* Can institutional borders be removed?
* Universal move to work together
* Funding/sustainability/establish
* Call public attention and awareness to sustainability; Get government involvement; Proposed policies to improve sustainability;
* ACCEPTANCE of the sustainable education among schools, community groups, local & state governments, utility companies, state commissions FINDING low-hanging fruit elements that would be easy/affordable to implement (this would generate trust). DETERMINING a hierarchy of elements
* Different methods of education and outreach for different audiences. Education, re: short term and long term gain from implementation of sustainable efforts. How to get diverse group of stakeholders together at one place to share ideas? Pool resources so lower income community members can make a difference as a group (educational community gardens- with rainbarrels, drought tolerant/native plants, plants that absorb pollutants (including nutrients); restoration efforts, "multidiciplinary" business support-- one businesses waste is another's input)
* Bring diverse groups together (through restoration events, community gardens, etc. so that information can be shared and community connectedness enhanced)
* Identify barriers that prevent outreach and effective communication
* Lack of people trained in effective sustainability education
* Lack of research regarding effective communication and education
* Use of volunteer groups—identify which are most effective
* Integration as key to sustainable efforts:

-Education and outreach usually an add-on (attitude of researchers); Institutional boundaries—example: structure of universities preventing collaboration; Institutional change in viewpoint regarding education

* NEED FOR APPROACHABLE CONTENT: faith-based, culturally appropriate, connect to leaders, businesses and government

-Translating knowledge to folk level

-Leaving out faith organizations

-Culturally appropriate communication

-Very local nature of what works in communities

-Engaging policy makers

* Connection of youth issues
* lots of ideas and agenda's but people are not always talking to each other - no central database which is accessable to all levels of the community which can be used as a resource for scientists, educators and agencies -EDUCATION !!

***NEEDS that CE3SAR will attempt to SATISFY***

**R&D**

* To identify and remove roadblocks that keep individuals from adopting sustainability benefits
* Research best practices for making adjustment to current dwelling to increase buy in.
* Satisfy bridging the gap between excess/boom and depletion/bust.
* Public awareness; financial support; R&D (development); pilot study; equipment facilitate; information specialist.
* Identify the future growth and will it be residential (single-family or multi-family), or will it be manufacturing.
* What will be required to make this sustainable and thus attractive to growth and long-term investment.
* To effectively identify and meet with community leaders To identify and remove roadblocks that keep individuals from adopting sustainable benefits to provide a method of building structures and food resources and affordable energy/water based on sustainable policies and practices
* Development, adoption, and implementation of a long-term energy development and production strategy.
* Identification of a proper metric (recommend total cost and/or lifecycle cost approach) to level the playing field among competing energy, water, and environmental demands.
* Develop and deploy/implement an effective model for public engagement; make this central to all that CE3SAR does and how it fundamentally changes the R&D paradigm for the region (and eventually the nation).
* Research should seek to address the long-term availability of basic human needs such as food, water, shelter, and medicine to the people of South Texas, especially those who are most impoverished. Need for scientists to actively communicate to youth, teachers (formal and informal), decision makers, and researchers in other disciplines. Need for more baseline testing of groundwater quality, surface water quality, air quality, biodiversity, ecosystem function, and human health as they relates to potential contamination from various energy development technologies. Need for documentation of climate changes in the border region. Climate models have indicated that dry places will get drier. Has that prediction manifested yet?

**ENERGY**

* Environmental and energy needs
* To provide a method of building structure and food resources and affordable energy/water based on sustainability policies and practices.
* Energy in relation to how it works regardless of type of dwelling
* Minimize the energy needs of industrial development how can you minimize the waste streams associated with energy sources

**WATER**

* Water quality
* Rights of residence verse farmers in relation to water
* Water justice, water quality Economic opportunities vis a vis green industry Change the reputation of the region towards environmental amenities (like Hill Country enjoys) Improve household water/energy efficiency to promote long-term viability of living in the region "Jugaad" - Frugal innovation lead by tradition/folkways Training/Education for people to learn how to "translate" science into information people can use.
* Communication beetween different groups and levels that are addressing water issues -facing reality that Texas is under a water crisis but the vast population doesnt know, care, understand, etc.. - address the disconnect between issues upstream (rivers, streams) to their effect downstream (bays, esuaries)
* Effective management of water resources, particularly groundwater.

**CLIMATE**

* CE3SAR needs to develop effective communication about climate change to leaders and the general public. CE3SAR needs to get research results out and available as quickly as possible to other organizations that may need that information.
* Remediation for climate change: how can we (locally/regionally) become part of the global solution that addresses carbon reductions? (Energy efficiency, low-carbon power generation, Carbon capture/sequestration, etc.) How can we provide best management practices to address climate change impacts?

**EDUCATION and OUTREACH**

* Higher Education for South Texas
* Effective GW management and strategy
* To effectively identify and meet with community leaders
* Educational models, which can utilize across various populations
* Universal message and action
* Pursue additional funding
* Education for the trades so that construction will be encouraged to be cutting edge and not the same old thing that got us into trouble in the 1st place.
* Public needs a list of achievable action items-- because to some, problem might seem so BIG they don't know where to start. Teaching lessons through non-traditional avenues-- cultural events, arts, poetry, tv, etc. Identify abilities, resources and needs, of stakeholders/participants for effective collaboration and establishment of funding.
* Develop a water/energy/etc use projection Develop comprehensive public outreach program on sustainability Assess economic value of eco- and anthropogenic systems
* Alternate funding sources
* Clearinghouse of who is doing what in South Texas (not just list)
* Water/ energy issue apathy; Use energy/water related crisis as avenue to make people aware
* Targeted efforts/ incentives for water conservation as with energy
* What sustain policies / practices available to low income persons
* Utilization of Frugal innovation, folk knowledge
* Scientists need relationships with policy makers (city, county, state, etc.)
* Justified Approaches: Be analytical with what comes out of charette (cost effectiveness, opportunity costs, Life cycle analysis, leverage resources)
* Make fiscal sense

-Link existing resources to needs

-Policies that make financial sense

***What are the OPPORTUNITIES that CE3SAR will attempt to REALIZE?***

**R&D**

* The network has an opportunity to bring together researchers and practitioners to develop synergies that would otherwise not exist.
* Improve engagement
* An effective network will be recognized and powerful, because effective networks are needed
* Develop of curriculum to be available to general education/public.
* Funding and grants. Continue working network , educational product for all levels.
* Use network to implement region-wide research program Identify multidisciplinary teams to address key issues Channel network resources to priority issues Take advantage of cultural diversity of network Network-wide outreach effort
* Economic analysis takes all costs/benefits into account; cost of alternative energy sources; environmental costs; incorporation of monetary values of ecosystem services
* Social entrepreneurship: Engagement of industry/business to contribute to social (education) endeavors and give back to community
* Bi-national opportunities (barriers)—transborder location, international funding opportunities (ex “NAD”? bank)
* Funding
* Partnerships

**ENERGY**

* Energy neutral development

**WATER**

* Poor living conditions in addition to proper nutrition, adequate electricity and water efficient and durable housing provides opportunity to address these targets, opportunity to adjust the thinking of policymakers

**CLIMATE**

* Future proof South Texas families to deal with climate change Leverage funding related to climate change and international development (border) Using micro-lending opportunities to help families make changes that will hae immediate pay off Train a generation of educators, workers and leaders in sustainability education USDA funding tied to adapting agriculture for climate change

**EDUCATION and OUTREACH**

* Economic Dev. For South Texas
* Maintain environment protection
* Link existing resources to solutions: funding; who's already doing it; who can be effective
* Creation of working conservation which are made up of various experts and perspectives.
* Establish the highest living standards in the US in this region.
* Collaborators’ needs and thoughts; communities' needs and thoughts; how to benefit society and communities by the network research results;
* We have a clean slate in S. Texas with easy terrain for construction.
* We have the financial resources available without a lot of government subsidy requirement.
* Opportunities to understand the role we play in pumping carbon into the air here in S Texas. Eagle Ford shale play.
* workshops to bring people closer /likeminded people together on 3 main areas of research over the course of many years - diversity of the people in each of the groups
* Capitalize on the combined strengths of universities, research laboratories, industry, government, and the public.
* Effectively engage the public in (a) identification of regional needs related to energy, water, environment, and climate; and (b) communication and implementation of research results.
* I would like it if researchers in the network began research on specific questions regarding the environmental impacts of oil and gas development in South Texas. My organization, the Safe Fracking Coalition, has come up with a long list of potential research questions, and it would be great if some of the institutions in the network pursued research to answer those questions.
* Funding for small, local, eco-friendly businesses; Outside the box thinking-- where/who do people learn from? what motivates learning? what actions can be taken to reduce apathy? Improved public transportation for communities and development that supports pedestrians and bicyclists.
* -Change core curriculum requirements – integration of sustainability and social responsibility—target science curriculum being developed now
* -Partnerships with ISDs—provide supplementary materials to teachers that are easy to use
* -Change in (HS) curriculum (incorporate sustainability into Earth Science curriculum)
* -Training educators and leaders
* Disasters- future impacts (floods, cholera, drought) and as opportunity for research/education
* Link research agendas of physical science, social science, economics and education (etc) research

***What are the ASPIRATIONS that CE3SAR will attempt to FULFILL?***

**R&D**

* South Texas environmental development
* Resource that produces usable information that can be implemented regardless of amount of dollars which may or may not materialize after funding cycle ends
* Resource, product, deliverables, yielding more resource, product and deliverables
* To apsire to provide the opportunity for small business to flourish.
* Effective collaboration R&D
* Motivated, empowered populace; Better understanding of sustainability in relation to development and environmental resources; How to coordinate efforts of developers and decision-makers and researchers for sustainable development on a community level
* Accountability of ideas from charrette and measureable outcomes

**ENERGY**

* Scientists identify consequences of energy/water shortages

**WATER**

* Addressing the misconception that there is an abundant supply of water in texas and for texasn and that we can continue to grow in our population WITHOUT impacting the environment address misconception that energy and ag industries are not impacting the environment - address issues arising from senate bills 2 and 3.

**CLIMATE**

* Take long-term consequences of climate change and sea level rise into account

**EDUCATION and OUTREACH**

* CE3SAR should make every effort to communicate results widely and effectively.
* Systems model
* Data gaps from network
* Adjusting and improving school curricula K-12 and higher training sustainability ambassadors for all communities.
* Educating decision makers first by illustrating data and examples that show sustainability does not necessarily mean unaffordable changes.
* Continued networking, educational curriculum.
* Getting the same people to the table
* Universal goals, get the people here.
* New curricula for the trades taught at the community college level and started in the high schools. Support the local economic growth and sustain new development with local money staying local.
* Comprehensive communications of research efforts so that there is the greatest distribution of the most recent peer-reviewed made available to the public in the shortest time. Education and outreach that successfully communicates sustainability/climate change issues to the public and to policy makers.
* Aspire to improve social justice Aspire to prepare families to deal with climate change Aspire to improve research related learning outcomes for undergraduates and graduate students
* Adjusting/improving school curricula K-12 and higher education Training sustainable ambassadors for all communities Educating decision makers first by illustrating data and examples that show sustainability does not necessarily mean unaffordable changes
* In addition to addressing the sustainability of resources required by humans, the research should examine if and how human use of resources must be adjusted to maintain ecosystem function and prevent biodiversity loss in South Texas. Inform and influence decision makers to pursue the most ecologically, economically, and socially just options for natural resources development in our region. Incorporate CE3SAR research into online interactive lessons for kids and adults that can be shared through popular social media outlets. Pursue solutions-based research when possible.
* Show policy makers that sustainability won’t break bank / is affordable
* Establish efficient communication/ outreach for network
* Link/integrate research to educators to create synergy
* Balance hope and fear
* Find/provide simple solutions (positive strategies) to provide to public that are culturally connected

***Hot Buttons***

**R&D**

* Accountability for ideas from Charrette
* Is this a show or will opportunity really come from it?
* Integration of the "true" value of environmental resources for more informed development decisions at the local level; Providing a list of action items to public so that they can be (and feel like they are) a part of change; Better education through non-traditional avenues-- hands on learning; Integration of traditional courses/topics into real life experiences;
* What is our customer base going to be and where?- The local economic development corporations will comply with standards and goals, then local academia will adjust its curriculum to educate their future economic drivers.
* Let communities know our research and its impact on people's life; Think about the transfer reseach to products; R&D.
* To outsiders reaping profits in this region: "can't take the money and run. What is the leave behind?"
* Improved research- critical data gaps for systems
* Enhanced economic development
* Improved research communication and connectivity to constituents and stockholders

**ENERGY**

* what are regional energy sources available and how do you exploit them economically how can you address societal needs with available resources and life cycle
* Ozone issues and federa; attainment.
* Distributed generation- Based upon local resources be they solar, wind ,gas, hydro, etc. It will drive innovation and research, then implementation.
* Baseline testing in relation to the oil and gas boom in South Texas Comparison of impacts from different energy sources How climate change will affect basic human needs in South Texas
* Balancing energy development and water use with protection of biodiversity;
* Energy sustainability;

**WATER**

* Water sustainability for people and nature in the face of extreme, long-term drought;
* Agriculture and water use;
* Sea level rise, displaced communities and habitat loss;

**CLIMATE**

**EDUCATION and OUTREACH**

* Policy Drivers
* Enhanced K-12 Educational experiences
* Find positive strategies
* Show examples where effective changes are afforded
* Change curricula
* IP barriers
* Engage policy makers
* Find simple solutions that are culturally connected
* Education done in culturally manner.
* Sustainability must be an add-on education not an add on but the front end of planning
* Communication and Collaboration not just between scientists but also between scientists and practitioners.
* What makes a good network? Define and implement Develop long-term plan
* Find positive strategies: Show examples where effective changes are affordable Change curricula
* Graduate education/curricula in sustainability education offered as an online certificate that can be taken by current and future educators, community leaders and people working in the public and private sector in positions related to sustainability.

**CHARETTE INPUT SHEET NO. 5:**

**Developing a Plan of Action**

**A. Elevator Pitch (1)**

*CE3SAR is a network of universities, research centers, industry and NGOs and other stakeholders that will identify, prioritize and conduct research, affect quality of life in South Texas and communicate results.*

*The network uses multi-disciplinary approach to integrate technology, economics, social and environmental concerns related to energy, water and climate.*

*Our objective is to make the South Texas region more sustainable in the long term.*

* Interdisciplinary programs crossing lines and institutions. Collaborations
* Make industry our partners
* Network includes stakeholders, NGOs
* Pursue Grant sources together DOE, NSF. Translation of research!
* Network of blank that analysis critical problems of financial benefits of South Texas A&M University

*Context-specificity is important.*

*Audience: Knowing who are talking to hear*

*How and what they want to hear*

*Uniqueness*

*Don’t use the word ‘research’*

**B. Strategic Goal**

***To develop innovative solutions and policies on energy efficient low-cost housing and community development by engaging the community centers, residents and other stakeholders.***

* Produce new information, tools, technologies, methods to solve well identify water related problems
* Create a pilot CE3SAR framework test it and improve it.
* 20% of energy we use is wasted. We need to identify and assess where we waste it and educate people how to reduce the waste.
* Establish a multi institutional, interdisciplinary research and outreach program to develop technology for energy production utilize unique … including sunlight, wind in semi-arid lands.
* Create community driven research supported model and framework for the sustainable growth and development of South Texas.
* Energy independence is critical to our natural deficits. Review cost-benefit of current drilling reps and make connections.

*Organizational Goals:*

* Deliverables
* Recognition
* Governmental entities
* NGOs
* Local representatives of Ce3SARs
* E3
* Leadership
* **Mutable** organization at the leadership level, coordinating council
* Structure: reports, newsletters and deliverables
* An organization whose goal is recognition representation of problem, get recognition and got to organization
* Establish an organization with structure
* Local representative of E3 getting recognition: reports, newsletters and deliverables
* Local level leadership
* To reach beyond the individual
* Interdisciplinary
* Network, protocol, dropbox and so on. Structure to make this network works.
* Organization, mechanism,
* Can we build a network?
* Community-driven mechanism
* Industry could be a quick connection
* Private partners
* Industrial councilor board (Dallas)

**GOALS**:

* Create a pilot CE3SAR framework and test it and continuously improve it.
* Establish/identify a self-sustainable organization with rewards and recognition and meaningful achievable deliverables.
* One group goes after grant, other one engagement of communities and stakeholders, outreach kids, schools, teachers and parents. One group for legislative support and technical and strategic goals.

**General plan of action**:

* + - * Leadership at the local level, meaningful achievable deliverables.
      * Identify local representatives.
      * Go after Big data science and engineering NSF, DOE

**General resources:** Each network is going to have to commit Full Time Equivalent (FTE) to be represented. Stakeholders are county judges, independent school district, major industries and local COG General Managers, chamber of commerce. One group goes after grant, other for engagement of communities and stakeholders, outreach kids, schools, teachers and parents.

* Travel budgets (webcast),
* Maintain Web-page resources
* Dropbox
* Regular deliverable from each stakeholder such as newsletters

**General commitments:**

* Contribution on what is going on at the institutions,
* Ongoing projects

**Target date:**

* 2 months for general agreement of instructions
* 4-5 months structure in place

**C. Tactical Objectives and Associated Preliminary Operational Plans of Actions**

**Tactical Objectives:** Testing the model in place with a pilot program

**What:** Select a topic: water

**Why:** Critical to the needs of the people of Texas to grow

**How:** by forming a steering committee

**Who:** Contact county judges, independent school district, major industries and local COG General Managers, chamber of commerce.

**With What:** An internal Committee of Ce3SAR,

* money from industry
* Recognition from academia

**When:**

* 2 months internal committee
* 4-6 months to test the network by activating the cells for the task

**Where:**

* McKenny TX

**Metrics:**

* Buy in by industry & Academia
* A network that perform as intended
* Continuous improvement

**D. Commitments**

**Elevator pitch:**  local folks identifying local problems creating local solution that are implemented locally by local folks.

**A. Elevator Pitch (2)**

* CE3SAR is a network of researchers and stakeholders who are collaborating to develop research-informed and stakeholder-driven approaches to help human communities adapt to the effects of climate change. This group is different in that it is focused on and initiated by people from within the region. The network will develop feasible solutions to climate, water and energy issues that can be exported to other regions.

**B. Strategic Goals**

***strategic goal. (i.e., What to do…)***

* Collaborate with stakeholders to develop a list of research projects related to climate change adaptation.

***General plan of action***

* Hold stakeholder meetings across the region to generate ideas for research projects.
* Compile stakeholder input in a database.
* Have topic experts refine research suggestions and frame them in a form appropriate for research.
* Distribute the list to CE3SAR partner institutions for action.

***General resources***

* General resources needed include: funding; institutional involvement; a database to organize the suggested research topics; sufficient time to conduct stakeholder meetings and compile input; a tool that allows stakeholders to provide input; and commitments to participate from everyone including stakeholders.

***General commitments***

* General commitments include: CE3SAR commitment to coordinate stakeholder meetings; stakeholder buy-in; topic experts to refine research suggestions.

***Target date***

* This goal should be achievable within the first two to three years.

**C. Tactical Objectives and Associated Preliminary Operational Plans of Action**

***Tactical objective***

* Hold stakeholder meetings across the region.

***What***

* Determine how many meetings to hold, and when and where to hold them.
* Identify stakeholders to invite and compile contact information.

***Who***

* CE3SAR

***Metrics***

* List of research projects should be completed and distributed by the end of the third year.

***Assumptions:***

* The assumption with this strategic goal is that a list of research projects is needed or desired by CE3SAR.

**D. Commitments**

***Personal Commitments***

* I would be willing to participate in future stakeholder workshops as invited and as feasible.

***Institutional Commitment***

* The Nature Conservancy would likely be willing to continue to send a representative to participate in future workshops as invited and as feasible. We would also be willing to submit a list of suggested research topics if asked.

**A. Elevator Pitch (3 )**

* South Texas is a very important region in U.S. from the aspects of military, energy, and agriculture, international, global peace, etc. The sustainability impacts on south Texas will directly or indirectly influence U.S. and world.

**B. Strategic Goals**

***Strategic goal. (i.e., What to do…)***

* To develop a model to bring talents and resources together to eastablish a mechanism to predict climate change for south Texas.

***General plan of action***

* Make a set of tests to make sure the model is easy to use and collaborator-friendly.

***General resources***

* academic, industry, government, community, and founders representatives to make them feel easy to use and accept the model.

***General commitments***

* involvement, participation, and communication as much as possible.

***Target date***

* Auguest, 2012

**C. Tactical Objectives and Associated Preliminary Operational Plans of Action**

***Tactical objective***

* literature review to see how others do in the similar situation.

***What?***

* get information from news papers,publications.

***Why?***

* Get wisdom.

***How?***

* analysis date and resources

***Who (i.e., responsibility for execution of the tasks)?***

* CE3SAR

***With What (i.e., resources required to complete the tasks)?***

* Internet and news papers, journals.

***When (i.e., target date for completion of the tasks)?***

* August 2012

***Where (i.e., location for the execution of the tasks)?***

* TAMUCC

***Assumptions and Expectations [Assumptions:]***

* Similar situation

***Assumptions and Expectations [Expections:]***

* learn others' lessions and good practices.

***Wants, Needs, Do’s, and Don’ts [Wants:]***

* references

***Wants, Needs, Do’s, and Don’ts [Needs:]***

* fit to CE3SAR

***Wants, Needs, Do’s, and Don’ts [Do's:]***

* oprational and specific information

***Wants, Needs, Do’s, and Don’ts [Don'ts:]***

* general report

**D. Commitments**

***Personal Commitments***

* make note and documents findings

***Institutional Commitment***

* time and equipments.

***Commitment from Others***

* subscribe journals and newspapers.

**A. Elevator Pitch (4)**

* Helping South Texas families deal with the environmental, social and economic impacts of climate change is going to require the tight organization of available resources in terms of research, development and education in order to avoid missing potential synergies or leadership opportunities. CE3SAR is an organization of public, private, non-profit stakeholders designed to capture the potentiality of this synergy and leverage it to benefit families in South Texas.

**B. Strategic Goals**

***Strategic goal. (i.e., What to do…)***

* Offer an online graduate certificate in sustainability education to students at CE3SAR member universities.

***General plan of action***

* Develop a curricula on sustainability education using an online platform that allows graduate students and people currently employed in the public or private sector to study the best methods to teach about sustainability. Propose and receive approval for the certificate from the THECB. Enroll students from participating universities and colleges

***General resources***

* online platform teaching assistants administrative costs teachers nationally recognized curricula as a model information on learning outcomes from employers or end users

***General commitments***

* identify a director and secure time to develop certificate consortium to allow cross-institutional enrollments (MOU maybe?)

***Target date***

* Proposal Submitted 2012, Students Enrolled: January 2014

**C. Tactical Objectives and Associated Preliminary Operational Plans of Action**

***Tactical objective***

* Same as the strategic goal. You did not do a good job of explaining the difference

***What?***

* Identify people at each institution who can work on the curricula Meet to decide waht courses are needed and in what order the courses should be rolled out. Get institutional buy-in and decide who will administer the program Determine how students across the institutions would enroll and pay for courses at the home institution rates Write proposal for the certificate Identify technology platforms Choose teachers

***Why?***

* Communicate sustainability research using proven, effective pedagogy

***How?***

* Online Multidisciplinary

***Who (i.e., responsibility for execution of the tasks)?***

* Texas State MSIS/MAIS Faculty and other faculty at participating institutions

***With What (i.e., resources required to complete the tasks)?***

* Funding to hold meetings Graduate assistants to fuel development

***When (i.e., target date for completion of the tasks)?***

* Fall 2012

***Where (i.e., location for the execution of the tasks)?***

* UTSA

***Assumptions and Expectations [Assumptions:]***

* Texas State University will support a new certificate

***Assumptions and Expectations [Expections:]***

* Other institutions will enroll students

***Wants, Needs, Do’s, and Don’ts [Wants:]***

* Permission to use CE3SAR to justify the program

***Wants, Needs, Do’s, and Don’ts [Needs:]***

* Information about specific skills desired by employers

***Wants, Needs, Do’s, and Don’ts [Do's:]***

* Keep the focus on interdisciplinary and education

***Wants, Needs, Do’s, and Don’ts [Don'ts:]***

* Get off target or make the program too vague

**D. Commitments**

***Personal Commitments***

* I would be willing to direct such a program and oversee the development of the online modules used to teach the courses

***Institutional Commitment***

* I believe that Texas State would support the graduate certificate to be housed with them if a way to allow students from other schools to enroll and account for SCH can be developed.

***Commitment from Others***

* Use the graduate certificate to train the trainers at all levels of the network, improving the branding power of the certificate.

**A. Elevator Pitch (5)**

* Unique connectivity of researcher, scientist, engineers with stockholders and constituents
* To promote STX economic and technology development to address multi-=scale energy and environmental topics surrounding economic development
* Unique connection to stakeholders
* Environmental concerns are themselves a complicated, entangled web of issues, questions, connections and confusion. Progress in addressing our future require an organization that can bring some structure and networking to this problem
* Effective near term work will require starting locally. In the reason CE3SAR is starting with issues and mechanisms focused in South Texas
* Rising energy costs for gasoline and electricity makes everything else more expensive. To keep energy costs under control requires a combination of greater energy conservation and development of new sources of energy. Smart conservation includes making transparent the use and misuse of energy. Developing new energy sources requires us to also preserve our environmental command. CE3SAR’s are committed to improve energy use and promote energy development.
* In order to implement the goal of sustainable living, CE3SAR is organizing a network of academic institutions, research centers, non-profit organizations and other to identify needs, provide resources, provide training for all strata and groups of all cultural and economic background.
* Regarding water, it is possible to find existing strategies to properly use water in an amount not greater than the water is provided.
* As a member of CE3SAR I’d like to share with you what we have been doing and why you’d might consider learning more. We are all joined by an united reality regardless of our personal affiliation we all want water, clean air and safe environment for the south Texas communities.
* CE3SAR is a network of university, research centers, industry, NGO and other stakeholders and will identify, prioritize, conduct and communicate.
* Say, the environment and global issues have been on everyone’s mind for the past 10 years. This week I attended a CE3SAR Charrette. CE3SAR is a network of ? that ?

**B. Strategic Goals:**

* Closely connect with the stakeholders and constituents of South Texas
* Finding an innovative model to networking
* Provide public awareness, energy use in south Texas along with affordable examples of more energy.
* Put policies in place to designate annual water use limits among all users, based on annual water supply
* Develop introduction to provide solution to identified energy issues which consider vintage methods as well as innovative new solutions.
* To increase the awareness and commitment of industrial resources

***General plan of action:***

* School administration
* Renewable energy /Industrial lease
* Water planning groups
* Air quality groups
* Economic development Councils
* Organizing the network
* Producing new teaching information on harvesting energy and create awareness for energy source in South Texas.
* New approach to use and harvesting energy in South Texas

***General Resources:***

* Recognition of the organization
* Identify current baseline
* Resource- collective talent, expertise and perspectives of CE3SAR members.

***General Commitments:***

* Institutional, recognition and personal existence of deliverability
* Strategic plans
* Anticipate what it is we are in exploratory stage.
* What is the commitment of organization involve, time, efforts, space, human resource, from CE3SAR senior members to network decision makers. Buy to the plan and from CEO’s.
* Commit to a strategic plan and form a CE3SAR member CEO’s.

***Target Date:***

* June 2013

**C. Tactical Objectives and Associated Preliminary Operational Plans of Action**

* Enhance or create alternative energy sources
* Enhance or create alternative energy source and fossil fuels, conventional fuel.

***What:***

* Identification of an achievable near term deliverable
* Prioritize

***Why:***

* Organization and assignment of tasks

***How:***

* Obvious

***Who:***

* Leadership group

***With What:***

* None for near term

***When:***

* June 2013

***Metrics:***

* Fueling –private/federal
* Legislative connections/support
* Technical products/review IP
* General agreement that the tactical deliverable is worthwhile and achievable

***Assumptions:***

* Commitments from RCN members
* There is ample commitment

***Expectations:***

* Funded projects/ Economic development and students engaged/graduated
* The group will become the “go-to” group for private and government entities seeking approval and/or information

***Wants:***

* Structure

***Needs:***

* Structure

***Do’s:***

* Establish deliverables and schedules

***Don’ts:***

* Let things coast and hope for the best

**D. Commitments**

***Personal Commitments:***

* I am willing to be part of the organization

***Institutional Commitment:***

* My institution is in transition, it cannot make any commitments.

***Commitment from Others:***

**A. Elevator Pitch (6)**

* CESAR brings together researchers in a variety of disciplines to define a framework for implementing research objectives in the area of Energy, Climate, and Sustainability. Members of CESAR are made up of scientists, managers, and other professionals who are engaged in on-the-ground solutions that uniquely address needs of people in South Texas, especially those who are underserved, in the context of global environmental change. CESAR connects the Safe Fracking Coalition with researchers in hydrology, air science, economics, and social justice, topics that are key to identifying and implementing pollution prevention technologies in light of oil and gas development in the Eagle Ford Shale region.

**B. Strategic Goals**

***Strategic goal. (i.e., What to do…)***

* Enhanced baseline water quality and quantity datasets that allow adequate understanding of water in our region for the purpose of ensuring a clean, safe, and reliable water supply for citizens in South Texas.

***General plan of action***

* Take more data points on surface and groundwater in Texas, and share that data with the Texas Water Development Board to ensure widespread data availability.

***General resources***

* Certified laboratories, third party consultants, funds to pay for the tests

***General commitments***

Funding from multiple sources including potential water polluters, and all water users Trust from water-well owners to enter their property, test their water quality, and report it to a state agency for their benefit.

***Target date***

* Within the next 8 months.

**C. Tactical Objectives and Associated Preliminary Operational Plans of Action**

***Tactical objective***

* Enhanced baseline water quality and quantity datasets that allow adequate understanding of water in our region for the purpose of ensuring a clean, safe, and reliable water supply for citizens in South Texas.

***What?***

* Recruit landowners who are interested in participating in the study; prioritize water wells that are actively in use and for which no water quality or flow rate data has yet been provided to the Texas Water Development Board (TWDB). Decide who will pay (grants, industry, landowners, and local governments), and by how much each entity will pay. Coordinate labs, and third party consultants who will conduct the testing. Coordinate with the Texas Water Development board to ensure quality control of data, that all necessary data is acquired when sampling, and that the information is ultimately entered into the TWDB groundwater database for public use.

***Why?***

* Both the oil and gas industry and landowners are vulnerable to false accusations of water contamination caused by oil and gas development. On one hand, oil and gas well drillers could be falsely accused of contaminating a water supply if no background water quality data is available. On the other hand, landowners may not be able to pay for remediation or obtain just compensation from an oil and gas well driller if the landowner cannot prove that the oil and gas company caused the damages. Both parties are vulnerable, and baseline testing for methane gas, Volatile Organic Compounds (VOC), Polycyclic Aromatic Hydrocarbons (PAH), metals, salts, naturally occurring radioactive materials (NORM) and Total Petroleum Hydrocarbons (TPH) can help

***How?***

* Need to have a meeting between industry leaders in south Texas, county commissioners, regional groundwater management area representatives, groundwater conservation district representatives, TWDB, Railroad Commission (RRC), Texas Commission on Environmental Quality (TCEQ), multiple landowners representing different socioeconomic groups including those who do and do not own oil and gas royalties, and other scientists researching these topics. Follow TWDB quality control procedures for sample gathering and data reporting, incorporate suggestions from scientists to ensure that these procedures are adequate for current and future use.

***Who (i.e., responsibility for execution of the tasks)?***

* Either the Texas Water Development Board or an NGO should be responsible for coordinating these efforts. The Safe Fracking Coalition has little capacity to organize this task, but if we had a way to raise funds in the area it might be possible.

***With What (i.e., resources required to complete the tasks)?***

* People to manage the project, labs, third party consultants, funding ($250 to $1550 per water well, depending on the kinds of tests desired. See Palacios (2012) http://hdl.handle.net/10161/5370).

***When (i.e., target date for completion of the tasks)?***

* Funding meeting: 3 months; Recruit water well owners 5 months; Begin testing in 7 months

***Where (i.e., location for the execution of the tasks)?***

* Eagle Ford Shale region. The project should be managed by groups in or near the Eagle Ford shale region.

***Assumptions and Expectations [Assumptions:]***

* Assumes that groundwater contamination could potentially occur in the Eagle Ford shale region as drilling progresses; also assumes that it is possible that water well owners might falsely accuse drilling companies of contamination, or that industry will be able to legally avoid compensating water well owners if no baseline water quality data exists. Assumes that industry will not outright pay for the tests unless some sort of payment distribution deal is worked out with agencies and water well owners.

***Assumptions and Expectations [Expections:]***

* There is also an expectation that industry will not want to make the data publically available. One proposed argument against making water quality data publically available is that the property value would be lower if the public knew the groundwater was contaminated. However, such an argument shouldn’t prevent water testing and public data availability, because it would be unethical to sell land without informing a buyer that the groundwater was contaminated. Expect pushback from RRC and industry, and not enough staff support from TWDB and TCEQ. Expect landowners to be wary of outsiders; some will probably express fear of eminent domain

***Wants, Needs, Do’s, and Don’ts [Wants:]***

* Want every water well to be tested multiple times (at least once for each season), by reliable third party consultants. Want cooperation from industry and the RRC.

***Wants, Needs, Do’s, and Don’ts [Needs:]***

* Need trust from landowners

***Wants, Needs, Do’s, and Don’ts [Do's:]***

* Do publicize goals far and wide so that landowners will be aware of the project. Do plan responses that will motivate agencies and industry to buy-in to the project.

***Wants, Needs, Do’s, and Don’ts [Don'ts:]***

* Consider testing for additional potential contaminants from other industrial processes, such as pesticides, but don’t extend the scope of the project so far that it becomes unfeasible.

**D. Commitments**

***Personal Commitments***

* I will seek out an organization that is willing to take on managing all the stakeholders involved.

***Institutional Commitment***

* The Safe Fracking Coalition can participate in exercises to plan a communications strategy with industry, agencies, and landowners.

***Commitment from Others***

* Scientists who understand water quality and quantity risks in the Eagle Ford Shale region are needed to contribute to the regional water testing plan.

**A. Elevator Pitch (7)**

* CE3SAR is a group of universities and research centers that engage the public, industry, and government in identifying, prioritizing, and conducting research, and in communicating research results among the stakeholders. The network uses a multi-disciplinary approach to solve problems by integrating technology, socioeconomics, and environmental factors related to energy, water, and climate. Our objective is to make the South Texas region more vibrant and sustainable over the long run, consistent with its unique peoples and cultures.

**B. Strategic Goals**

***strategic goal. (i.e., What to do…)***

* Establish an organizational structure and relationships that will last over the long term--far beyond the funding cycle of the NSF RCN. The structure and relationships need to expliciting include all types of stakeholders.
* See specific technical strategic goals from workshop notes.

***General plan of action***

* Establish leadership at the local/organizational level.
* 2. Establish a "leadership council" or other mechanism for long-term sustainment of the organization; recognize and include means for mutability over time to meet evolving membership and needs.
* 3. Establish a memorandum of understanding, approved at high levels within each organization, to delineate the overall process, procedures, and commitments involved.
* 4. Establish a means for recognition and/or reward for the organization and principal members of it (e.g., the leadership council).
* 5. Establish clear metrics, achievable objectives, and scientifically and regionally meaningful goals.

***General resources***

* People who are capable and committed. Access to facilities. Funding mechanism for continuity of operations of the council. See input summarized in the group discussion.

***General commitments***

* MOU on commitments at the organizational level and modes of interaction. Need some means of funding fractions of time dedicated to organization. See input summarized in the group discussion.

***Target date***

* No later than the end of the second year of operation of CE3SAR.

1. **Elevator Pitch (8 )**

* In order to implement the goal of sustainable living, CE3SAR is organizing a network of academic institutions, research centers, non-profit organizations and others to identify needs, provide resources, provide training for all strata and all groups of all cultural and economic backgrounds. (General above, more specific below) Regarding water, it is possible to find existing strategies to properly use water in an amount not greater than rainfall occurrences provide.

**B. Strategic Goals**

***Strategic goal. (i.e., What to do…)***

* Put policies in place to designate annual water use limits among all users based on annual water supply and rainfall

***General plan of action***

* Provide a "cap and trade" mechanism.

1. **Elevator Pitch (9 )**

* General Pitch In order to implement the goal of sustainable living, CE3SAR

1. **Elevator Pitch (10 )**

* CE3SAR will generate innovative solutions to protect the long-term sustainability of South Texas residents and businesses. These solutions will be adaptive, easily palatable and implementable, affordable, local, and forward-thinking and will utilize tools such as well developed networks, partnerships and multi-disciplinary collaboration. CE3SAR will research topics related to water, climate and energy, which affect the basic needs of humans and human and environmental well-being. CE3SAR will create real change in the communities of South Texas via public engagement and education and outreach.

1. **Elevator Pitch (11 )**

* focus on water priorities for texas, specfically that ALL people are held accountable/aware of their water usage define the water needs from rivers to the oceans and from the surface to below ground in terms of research, engineering, socio-economic development and education

1. **Elevator Pitch (12 )**

* Provide focus on water priorities for texas, specifically 1. accountability and awareness of water use and issues 2. defining needs from rivers to bays and surface water to ground water in terms of research, engineering, socio-economic development 3. training next generation of STEM researchers in south

**B. Strategic Goals**

***Strategic goal. (i.e., What to do…)***

* raise awareness of the water crisis in texas and create a sense of accountability/ownership of the issues

***General plan of action***

* evaluate existing strategies and practices knowledge base
* define water budget in CE3SAR budget area
* enhance baseline water quality data
* ID deficiencies
* Predict future water needs
* cost and benefits of future water strategies
* ID conflicts of interest
* incentize conversations
* create an information strategy

1. **Elevator Pitch (13 )**

* 1-frame the research agenda continuum local to global;
* 2-work on a comprehensive framework of a large set of issues that S Texas is faced with
* 3-bring together organizations committed to work on research that would be translated to hot button problems that S Texas is facing.
* 4-analyse issues from different perspectives

**B. Strategic Goals**

***Strategic goal. (i.e., What to do…)***

* research and education -communication -comprehensive framework of water issues (include all hydrologic components)

**CHARETTE ACTIVITIES DAY 3**

**CHARETTE INPUT SHEET NO. 6:**

**Defining the 12 Elements of the Business development Process**

**PROFILE:** *climate, water, energy as the drivers!*

* + - Ask participants and stakeholders about what they need.
    - Education and training of adults and kids.
    - Implementation of practices.
    - Knowledge generation about climate, water and energy.
    - Communication and dissemination (trust areas).
    - Local Profiles
* Economic development
* Environmental protection
* Improve quality of Life
* Recognition for South Texas
  + - Identify these few areas in which CE3SAR can make and demonstrate fast progress. For establishing a network that will not quickly fizzle, quick progress is needed
    - Talk with leadership of every CE3SAR participant to explain the intent of the CE3SAR efforts to attain the in and identification between the instructions and the efforts
    - Place all this on CE3SAR website
    - Create a survey and place on website as well
    - Create community and external database
    - Establish a data base
    - Ask participants and stakeholders Inventory what participants have done in the past Survey stakeholders or segments of the public
    - To explore how to effectively collaborate in research
    - local governmental (county- and municipal-level) liaison, work with various local environmental agencies and those related to environment. Ex: work w/ San Antonio River Authority, Texas Commission on Environmental Quality, UTSA. Peter Bella, Alamo Area Council of Governments (pbella@aacog.com) Staff at AACOG includes membership in the Good Neighbor Environmental Board (http://www.epa.gov/ofacmo/gneb/)
    - create searchable databases:
* people
* equipment and facilities
* access
  + - All input to Sheet 6 was provided and summarized in the group discussion sheets. Nothing further is added here.
    - Water, climate and energy solutions; Reach out to general public early on; Go through a (short) survey process to determine need-- find out: what questions they have, how to they like to be taught, how much they know. Dissemination of information-- what is the best method?
    - Experts and liaisons in local and international policy, ecosystem science, pollution, geospatial analysis, the oil and gas industry, university education, and workforce development
* Government liaisons
* NGO liaisons
* Social media
* Systems analysis
* Water and Energy integration
* National Advisory Committee for EPA Policy and Technology
* Workforce planning and sustainability
* Mexican Government and NGOs
* People on the ground
* Environmental Assessment
* NEPA
* Air and Waste Management Organization
* Ecologists
* Extreme weather assessments and urban planning
* Geospatial
* Research and Development
* Oceans
* Oil and gas networks
* Biologists
* Professional development opportunities for college students
* Open faculty positions

**PLAN: (tool)**

* Planning charette meetings.
* Having dropbox.
* Organize a network: website.
* Point of interest, small groups in specific ideas, work to engaging experts and communities.
* Steering committee
* RCN Brand-MEANING
* PR – message
* Connect with stakeholders/constituents
* Tie research proposals to network
* Establish a central leadership group
* Establish satellite CE3SAR teams to hold mini-Charrettes or even informal meetings to determine specific goals and issues and send ongoing minutes, suggestions and conclusions back to CE3SAR Central
* Create a subscribe/unsubscribe format for new database
* Noon seminars (small charrettes)
* Create a tag message to the gathering
* Web-conference
* Availability of resources
* Sponsor conference
* Speak the language that all will embrace
* More charrettes Allow groups to form around topic areas, such as water, energy, etc., maybe even more narrow, and empower these groups to develop plans focused on the topic area. Engage decision makers and opinion leaders in participant institutions and communities (governments).
* build relationship between researchers. To know each other and exchange ideas.
* open concept: we have a division between 1) emerging technologies for fossil fuel recovery which, when employed, have deleterious environmental impacts, and 2) environmental remediation techniques and technology to apply to the deleterious environmental impacts. How can we best integrate these two?
* Mini charettes on focus areas - water, energy and climate
* Lectures/brown bags which will be broadcast using ttvn/skpye and or recorded for those that cannot attend (eg. with camtasia)
* Sponsor sessions at conferences
* Develop focal groups. Community engagement from the beginning (as per publications on stakeholder analysis) revolving around specific drivers/topics.
* Set up long term “impossible goals” and achievable intermediate goals o Let institutions organically place themselves into meeting those goals
* Ensure communication and a way for keeping track of input from the groups

**POSITION:**

* Water plan-Draught preventive water plan.
* New technology, processes of combination of rainwater harvesting and recycling
* Green job creation and sustainability in all aspects.
* Branding empowering individuals.
* Find out grassroots and bottom-up ideas.
* Cultivate local newspapers and televisions, NGOs.
* Connect with stakeholders/local needs
* Positioning will be futile without a specific though small success
* Positioning would be aided by developing a list of speakers on focused topics
* Do not patronize, empower individuals instead. Utilize, persuade listen to local people who are community leaders.
* Reach existing or form new groups
* Cultivate a good sense of observing and listening to recognize specific needs for specific groups.
* Have a plan to meet with important stakeholders like TCEQ etc. in their backyard instead of asking them to travel to us.
* Look at federal entities
* Attend others meetings
* Branding Business, well designed and user friendly website.
* Pay attention to wording and what we call things Do some focus group work on messaging Vet statements among representatives of groups having a discrete perspective.
* Meeting and conferences. Besides researcher, including stakeholders and representatives. K-12 teachers who will be important in educate next generation for sustainability. Everyone talks 3 minutes about what he/she can contribute to/benefit from CE3SAR
* Gather stakeholder groups around the subregions of the planning domain. These may be thematic (water; drilling in the Eagle Ford; habitat conservation; climate change, etc.) but would necessarily invite local specialists who are engaged in problem solving vis-a-vis the meeting topic AND folks from CE3SAR. Get together and discuss how these two groups can leverage each others needs and abilities and resources to attack the challenging issue, and how these locally-perceived issues can be joined within the research agenda/process of CE3SAR.
* Meet with agencies and public to engage
* Be present at a broad range of activities and of course, branding !!
* Branding that "empowers individuals"-- gives them action items to collectively reach a solution. Importance of PR/marketing/branding: Local sources of information (television, news, NGOs) as avenue to ensure a "CE3SAR" presence; need logo, mission, easy action items. Nontraditional audiences should be incorporated into the process-- children??!!, landowners, citizens, local decision-makers, students, etc.
* Stakeholder group meetings for the subcategories of Climate, Energy, and Sustainability
* Look for corporate funding with businesses, agencies, and universities that have a strong local presence and a commitment to environmental and social responsibility
* Hold press conferences to recruit, educate, and demonstrate our value
* Be inclusive with all groups and institutions, encourage interaction within and outside of the network and keep information flowing
* Hold community engagement events with families
* Create a K-12 and college level curriculum

**PRUNE:**

* Specific problems to specific areas: good observation and listening skills to see what is going on.
* Input from stakeholders, engage with the community.
* Feedback loops: talk to stakeholders then prune it.
* Participant institutions those are politically weak to support these areas. So institutions make sure that they are supporting it internally.
* A central council must make decisions based on a pre-established agreement about a limited number of early targets.
* Depending on expertise of participants, be open to recognize needs of stakeholders, evaluate the problems that exists, choose the institutions and tools most appropriate to address the problem
* Maintain websites
* Keep focus on Post-NSF
* Beneficial funding not just follow money
* Use same techniques as used to identify what to include. There may be areas the participants' institution’s leadership are too politically weak to support. Participants need to vette this internally.
* Set different working groups. Every group can design a research agenda. How to use information and library resources to support CE3SAR. How to draw more attention outside.
* After establishing the connections locally as described above, the network should assess its position in the partnering communities. Create a comprehensive listing of opportunities identified thru the open gathering process listed above. Gather the CE3SAR steering committee and prune.
* Avoid recreating and reinventing where possible create links to existing websites and databases so they are less effort to keep up and updated
* How much interest, capabilities exist? Are there funding opportunities to support work, especially non-traditional work? Map out conceptual model and make sure endeavors continually revolve around model and are related to goals and objectives.
* Rotary model: different people coming together for a common goal
* power in socialization and loose organization
* Incentives to meet regularly
* Don’t want people to feel trapped by obligations
* Regular presentations on the progress of research, grants that are available, and new members will help to entice people to come together and create an opportunity to engage more grassroots individuals who can enhance the impact of the network

**PURSUE/PARTNER:** DOE, HUD, TDHCA

* Outreach to the education to lower level.
* Develop partnerships.
* Collective partnerships with institutions, individuals, agencies and foundations such as:
  + USGBC
  + Colonias community Centers
  + GSABA
  + Art organization
  + Establishing a NGOs with this network
  + State fair Texas
  + AgriLife
* Funding
* Leadership
* Money
* Legislative Support
* Infrastructure
* Resources
* Hold regular meetings and attend meetings of others
* Write articles
* Open social network avenues
* Have an organized effort to create a funding link
* Work on getting story out. Web/sharing among partners.
* Involve, engage, inform, PR, network, advertise......... Identify opinion leaders and invite them to learn about CE3SAR. This is best done on one-on-one basis.
* Focus on local participators, extending to national and international participators.
* Partner with big organizations that already focus on 3 main areas, that is, connect to NASA, TCEQ, and leverage these to expand
* Local non-profit organizations as partners: Coastal Bend Bays Foundation, Texas Master Naturalists, TAMU-CC Marine Science Graduate Student Organization, TAMU-CC Student Environmental Action League (SEAL), Earth-Day Bay-Day presence, etc. Think outside the box for partners: Corpus Christi Downtown Management District, Art Walk Venues, etc. Establish a non-profit to ensure long-term sustainability of CE3SAR.
* Rotary model: different people coming together for a common goal
  + power in socialization and loose organization
  + Incentives to meet regularly
  + Don’t want people to feel trapped by obligations
  + Regular presentations on the progress of research, grants that are available, and new members will help to entice people to come together and create an opportunity to engage more grassroots individuals who can enhance the impact of the network

**PERSUADE:**

* Every partner has an elevator speech
* Link to people, show them success
* Have read appropriate elevator pitch, depending on who our elevator mate is
* Pitch creative common message for participants and potential partners
* Face to face conversation for creating a shared perspective
* Be open, professional, inviting, fact based, relevant. Explain how CE3SAR will help solve the problems they have now, and the problems they will soon have.
* Network collaboration, intelligence, CESAR importance.
* Actions speaks louder than words - highlight activities of CE3CAR that have occurred/ use these to push new things.
* Every person in the room should establish at least one working collaboration with another member or institution

**PERFORM:**

* Money
* Funded projects
* Social events
* Advocacy for local government programs
* Proposal teams
* Collaborative and partner with different centers
* Different levels of membership with different responsibilities
* Different levels of membership, at top level (14 members) there must be responsibilities, deliverables, and rewards.
* Local government and grassroots program participation volunteer and improvement and awareness events
* Achievable goals
* Establish simple guided list to evaluate on a consistent base.
* Identify and empower leaders in areas of activity. Support, motivate and monitor group activity to make sure leaders bring researchers together with stakeholders to develop research action, funding, and engagement with stakeholders.
* Everyone need to have an overview about the CE3SAR besides his/her own discipline.
* Develop effective tools to communicate with folks at different levels - magnets to pamphlets to presentations at regional meetings develop a common & consistent & clear message that all stakeholders are willing/will share.
* Ability to recirculate agenda and information shared
  + Authorized Organizational Representative has the authority to share research with the public, sign checks, etc…
  + Communication network online: Don’t want to use LinkedIn; Sakai, Blackboard are good options
  + capable of discussion boards, wiki, document sharing, public blogging
  + Librarian
  + International networks with IBWC/CILA, Monterrey Tech, other Mexican institutions, Good Neighbor Environmental Board (executive advising), mayors along the border

**PRODUCE:**

* Deliverables: engineering, and architecture
* Pick your targets
* Don’t over commit
* Follow up
* Recognize the more worthwhile or visible activities one does can be under the umbrella of CE3SAR
* It should produce a framework for research coordination and engagement in South Texas.
* 1. ideas 2. plans 3. proposals 4. research results
* develop a common & consistent & clear message that all stakeholders are willing/will share post presentations, webainers, papers, reports, etc librarian to produce summary (quarterly) of activities and links to products
* Logo mission easily tangible solutions related to research.

**PROFIT:**

* Publicity
* Publication
* Disseminate
* Money
* Business ideas
* Donations
* Internships
* The organization must have early success, and be able to change its own structure when it becomes clearer what direction it is taken
* Identify projects that can be defined into a proposal submit proposal to establish business, government projects and grant opportunities
* Production of material to proved at community events, school districts, ect.
* Buy in from energy companies and private sector.
* Through the process and results of networking, identify and acquire funds for research.
* Some ideas can try to get founds to develop further; Some ideas may result in industry products which may be used for sustainability.
* Develop a common & consistent & clear message that all stakeholders are willing/will share create a voice! network versus individual
* Utilize grant writers and nontraditional funding sources; tailor proposals to audience.
* Identify funders early on
* CE3SAR needs to monitor networking meetings and initiative development to assess if work is actually being done, and if so, how effective it is.
* Some ideas can try to get founds to develop further; Some ideas may result in industry products which may be used for sustainability.
* develop realistic metrics for evaluation eg., paper versus presentation develop reporting mechanisms that fit with activities e.g., how many people should up to presentations? what are their backgrounds? etc..
* ongoing, predetermined metrics-- reassessment as process continues (i.e. adaptive management and process improvement).
* Measures of success that relate directly to impacts on people and ecosystems in STX
  + Solutions based science
  + Participation within the public
  + Tracking amount of online involvement on a CESAR social network
  + Number of partnerships with different kinds of organizations: richness and evenness gov’t, NGOs, academic institutions, business
  + Tracking efforts and not just end results, because those could be far off

**PERFORMANCE ASSESSMENT:**

* Who is going to do what in this group?
* What are the metrics?
* Assessment should be ongoing.
* Assessment should be against milestones.
* It’s too early to know where the network will go, assessment will depend on where it goes
* Produce projects assign deliverables
* Secure sponsors
* Alert media and social networks
* Do the work
* Asses results
* Have evaluation sheets
* Have a unified format that would reward participant, number, topic and presentations
* Establish a matrix
* Develop feedback mechanisms Establish ways to easily empower leaders on issue areas to hold meetings and support logistics and expenses of that.
* 3 month short term evaluate: what I have down, what need to improve, what is good and deserve to sell (suggestions for others) half year evaluation: summary and ajust for the next step. exchange with others. One year evaluation: a year charette. Group reports and individual report.
* Lots of talk about the nature of the network itself, and about maintaining communications between members and access to the knowledge base and resources which may be accessible through the CE3SAR members and the institutions they represent. Suggestion: CE3SAR website with brief bio (with photograph! maybe I didn't get everyone's business card during this initial charette!) of each charette attendee / member with focus on what knowledge THEY bring to the table, as well as the knowledge / resources they identify WITHIN the agency they represent. If I have an idea for research or project collaboration, I can look on that website to identify potential partners / resource bases for my idea.
* rating sheets for activities
* Make surveys with fewer questions

**PROCESS IMPROVEMENT:**

* Adaptive management and reassessing them
* There should be messages from the central leadership to members
* Include in all projects assessment and aftermath meeting tasks. Identify problems, discuss solutions
* Choose best remedies, re-load.
* Efficiency of information
* Engagement levels, how do we capture
* Create target sheets.
* Organization individual--report to group leader--local leader--steering committee---everyone.
* One of the presenters showed a series of grant opportunities that he had culled from the federal grant website. If there were a way to publish, to \*push\* available appropriate grant information to CE3SAR members; this I see as a service that CE3SAR could provide to support the members, hence the process. Similarly, if there was a way to publish a schedule of local public meetings treating topics that are of interest to CE3SAR, this could provide opportunities for us to interact, engage, learn.

**CHARETTE INPUT SHEET NO. 7:**

**Brainstorming Funding Sources**

*Who will pay for answers to questions:*

* Energy Companies
* EPA
* Ground H2O authorities
* AWWA foundation
* Gates
* Meadows
* Pepsi
* NASA
* NOA
* how to provide the digital data or documents support for CE3SAR. How to find a tool/way to facilitate CE3SAR information exchange. ILMS (institute of library and museum) grants. Carnegie Foundation IEEE

*Who will pay for solutions to problems:*

* Important to develop plan, strategic goals.
* Yield list of plan for funding
* social entrepreneurs or entities that fund social entrepreneurs

*Who will pay for the satisfaction of needs:*

*Who will pay for the realization of opportunities:*

* Outline of expectations as CE3SAR members

Who will pay for the fulfillment of aspirations:

Additional Comments:

**CHARETTE INPUT SHEET NO. 8:**

**Identifying “Bumps” on the Road ( Challenges):**

**Inhibitors, Obstacles, and Barriers**

**Inhibitors**

* How to get every one participate.. Collaborate with TDL need effective communication. The software and repository, website is maintained on TDL server. There is time delay and misunderstanding.
* Trying to incorporate all ideas rather than focusing on the best suggestions that are attainable. Lack of motivation/ interest as project continues.

**Enablers**

* TDL can give technology and equipment support. Enagement in the area of digital repository and digital data management.
* Include stakeholders/ participants in decision process-- perhaps via survey/ ranking system. Keep it fresh-- utilize different techniques.

**Obstacles:**

* Researchers
* Deans
* Bureaucracy
* Time
* University Advisory boards

**Obstacle-Remover:**

**Barrier:**

* Lack of institutional support

**Barrier-Breakers:**

* Creation of new entities to perform tasks-- businesses and non-profits.

**CHARETTE INPUT SHEET NO. 9:**

**Reflections on, and Assessment of, the Charette**

**“Bugs”**

* Some sessions too long
* Three days maybe too long for a Charrette
* At times the format was not the most effective to extract the reasoning information
* At times self-serving agenda seems to over shadow the concept of a collective CE3SAR goal
* People asking to present stuff
* The limesurvey (input sheetts) has time limitation.
* The Friday morning session lacked structure compared to the other sessions. I didn't feel like there was the same level of partner engagement that may be based on the group I was with.
* The status of universities not represented on the Steering Committee but who may want to be active in CE3SAR is still unclear to me. The sooner that teh Steering Committee can clarify its continuance, or disolution to an Executive Group, or whatever the better. Its hard to explain today to my university president how we are affiliated with CE3SAR.
* The idea that GIS is the common language that is being used. If such platform is dependent on census data then many people in our region will not be counted-particularly those in colonias who are often not counted in census data. How do we ensure that the basic demographic data is actually more reflective of our region? Also the overwhelming STEM focus is a turn off to those not in those disciplines.
* 1. Unable to involve a full range of stakeholders--or even get them to attend. 2. Engagement and education (other than college/graduate level) appeared to get short shrift. Several participants commented to me that when they tried to discuss these topics, the group leaders/members deflected to discussion noting that these matters were periferal. 3. There was no need to cut the Friday afternoon session. All had planned for it, folks were fully engaged, and several commented that they had planned for and committed to be involved for the entire meeting.
* Where is the non-profit representation?

**“Rants”**

* Space too Small
* Guided discussions are great however it is important to have facilitator who feels comfortable in the role they have been asked to take. Understand what they are being asked to do. Facilitation is neither talk over everyone or stand back and never be heard.
* Talking while others are talking
* Need to communicate and familiar with every participated organization and disciplinary.
* Did not like how on day two many in our group want to focus on engagement as a strategic objective but ended with developing a climate model instead. Complete turn off for me that I stopped participating and listening at that point as the facilitator did not listen to the majority of the group. Interesting that it was mostly women who wanted the engagement piece yet male facilitator dictated the agenda. Do not appreciate the marginalization of women in this case. Finally, one group focused on a major project of doing a Charette in Dallas to address water issues in that area. Is this part of the region we are covering? What cities are part of SE Texas?
* 1. Preparation for the workshop by participants was in many cases poor. 2. Despite information routed in advance, a number of people clearly did not (do not) understand what CE3SAR or the workshop intend to achieve. Several, for example, did not know that the information being solicited was input to a five-year strategic plan for the organization.
* I am concerned about the feasibility of developing a predictive climate change model for South Texas. I think we need to reach out to specialists and be careful about the types of models we seek to create.

**“Raves”**

* Mix of experienced people
* It’s good to get such a diverse group together to discuss such issues
* I really liked the way it was organized and hosted
* Jorge did an excellent job. His examples were very informative
* Jorge, engaged people
* Collaboration among representatives from various organization, vast representatives.
* Food
* Great hosts at SWRI. Thank you!
* Nice facility and great food. Nice hotel accommodations. Great overall session facilitator that kept to the schedule. Met many wonderful people. Planning session on morning of day 2 were interesting and engaging.
* 1. The views and perspectives expressed were quite diverse. 2. Representation was excellent across universities. [See above comment on shortfalls with regard to participation by other stakeholders.] 3. Excellent range of technical expertise present.
* I really liked the inclusion of the representatives from the Colonias program. I think people who live at Colonias might be able to teach us about innovative, creative, conservative uses of resources that are necessary to enhance the basic needs of humans

**“Huh’s”**

* Charrette approach will be used to develop strategic plan?
* What’s next? When?
* Structure and vision for network is not clear yet, should become clearer and less muddy very soon
* Ensure that network members connect with constituents
* The objectives/goals of CE3SAR should have been made a bit clearer in the very beginning. But I guess this was the whole purpose of the Charrette. I am only concerned that if a pilot project is not implemented then it might be difficult to implement all the objectives of CE3SAR
* What or how will we as members of CE3SAR be held accountable. How will CE3SAR be held accountable? Collective great but who is the “point”.
* How to plan to data mangement and familiar every organization' s information needs and data type it produces or has.
* Except for Friday's session, I felt everything was explained very well.
* Please provide to all participants the caledar of milestone events that Jorge showed at the first session. What activity is next? Who plays?
* Not clear on the specific geographic area that is meant by SE Texas and what major cities are in this area that are part of the network. Not clear of the role of the steering committee Not clear on the research priorities of the group and how each participant perceives the problem being addressed.
* How will decisions be made regarding what direction CE3SAR will take?

**“Aha”**

* Appreciated some of Venegas’ insight
* Good group of researchers and leaders representing South Texas
* Personal level of network and sharing of ideas.
* This actually work.
* Jorge's terms are powerful. My illustration as suggestion to understand is included: structured flexibility - the franchise business model (some foundational relationship rules, any number of services/products can be transacted. mass customization - Starbucks evolving menu: their cafes are available all over the place but the product menu allows for highly personalized product delivery.
* Clearly seeing the difficulty in interdisciplinary research as we are clearly not speaking the same language. Need to get more on the same sheet of music on this issue before trusting, collaborative relationships can be built. Learned a great deal about the process and the tools are very helpful.
* I learned about institutions and programs that I did not know about previously. I also met motivated and interesting individuals from both within and outside my institution.

**“Grade”**

* 7
* 6
* 4
* 8
* 7
* 9
* 7
* 9
* 6
* 7
* 9

**“Perfection”**

* Need space to separate group discussions
* Fed and State agency participation should be increased
* Engage grad students more
* More Mexico representation
* Give persons opportunities to profile their organization throughout the Charrette
* Get work done in less than three days
* The long sermons by the facilitators were not effective
* The relevance on cute for mulating “SWORT” “PPP” were overdone, confusing and over constraining.
* Planning and organization was excellent
* In my opinion more time should have seen spent in the beginning on “What CE3SAR” is all about.
* Better structure in relation to break-out session, in relation to facilitators ability. Length of Charrette in relation to input of information Time-Effort.
* More diverse participation
* Very good. Few representatives from social science, political science, and public relation areas, media.
* Perfection would be making it a 1 1/2 day session.
* 1 The breakout group sizes were a bit too big for thought processing in the 'fire-ready-aim' compressed timeframes. Perhaps shaping group sizes to no more than 10-12 people per group. 2 Clustering large groups in one room made it very hard to hear within groups. Shaping groups to 10-12 may improve sound-to-size, but it would also help to hacve no more than 2 groups of 12 in the same room. This may argue for a facility that has breakout areas -- consider something like assembly area and breakout rooms at TRIPOINT, 3233 North St Mary's St off I-37/281
* Did not feel all voices were heard and that some voices were silenced by the discounting of some ideas and perspectives. A great deal of talk was about changing policy but no one there really talked about that this is in fact a science to conduct policy analysis and recommend solutions. This seems to be a piece that is an after thought but should be embedded as part of each research project.
* See comments above. The most important thing is broader (non-university) involvement. The second most important thing will be to more effectively communicate purpose and preparation for the next workshops and outreach activities we conduct.
* I think all individuals should write their ideas down before communicating with the group (as we did in the education session). I think this provides for more energetic conversation.