



**Alliance for Sustainable Colorado
Regional Sustainability Roundtable
Loveland, CO
May 6, 2010, Thursday**

Introduction

A Regional Sustainability Roundtable was conducted by the Alliance for Sustainable Colorado in Loveland on May 6, 2010. The Governor’s Energy Office and the Rocky Mountain Sustainable Living Association co-hosted the meeting. Over 80 community leaders from nonprofits, businesses, government and educational institutions shared sustainability experiences and identified key local barriers and solutions to sustainability priorities.

The meeting was intended to develop a collaborative network, identify leadership and a plan to move identified solutions forward, at the local and state level.

Pre-Meeting Survey

Pre-meeting survey results were received from 35 invitees. They ranked the top three social, environmental, or economic issues in most need of long-term attention in the community/region as:

Transportation (Particularly Public Transit)	22%
Energy Independence/Renewable Energy	17%
Water Conservation	17%
Localized Food Systems	15%
Economic Development/Jobs	15%
Land Use	6%
Sustainable Buildings	2%
Population	2%
Affordable Housing	2%
Local Government Funding	1%
Use of Genetically Modified Organisms (GMO) in agriculture	1%

Meeting Notes

A polling of participants at the meeting, however, indicated that **energy independence and renewable energy development** was the top priority. Therefore, the Roundtable discussion focused on determining barriers/solutions and action items for this issue.

What are your top three issue areas?

Energy Independence/Renewable Energy	23%
Water Conservation	16%
Land Use	12%
Economic Development/Jobs	11%
Transportation	11%
Localized Food Systems	9%
Sustainable Buildings	9%
Population	6%
Local Government Funding	3%
Affordable Housing	2%
Use of Genetically Modified Foods (GMO's)	1%

Which county do you live in?

Larimer	67%
Boulder	12%
Weld	9%
Other	4%
Broomfield	3%
Denver	3%
Jefferson	1%
Adams	1%
Gilpin/Clear Creek/Douglas	0%

In what field do you work?

Local, state or federal government	24%
Non-profit	16%
Service business	15%
Self-employed	14%
Education	11%
Retired	7%
Other	5%
Retail business	4%
Student	3%
Unemployed	1%

Incentive based solutions to improve Energy Independence and Renewable Energy:

Identify true incentives to adopt clean energy/energy efficiency, educate on those specific incentives for people, building owners, industry etc.	27%
Invest in new utilities infrastructure and move away from the consumption business model	24%
Strong package of local, regional and state regulations bundled with incentives	22%
Convert every home into an energy producer	16%
Invest in integrated design and upfront decision making	11%

Market Corrections to improve Energy Independence and Renewable Energy:

Enact true pricing for the cost of energy including externalities. Pass onto users (businesses and individuals). Base rates on all costs (triple bottom line)	30%
End subsidies to fossil fuels - shift them to renewable technologies	28%
Switch to demand rate billing for energy usage	17%
Modify accounting systems to recognize external costs to account for O&M over lifecycle of asset	12%
Raise taxes on energy consumption or charge for high energy usage during peak hours to	8%
Create mandates that promote renewable energy	5%

Education to improve Energy Independence and Renewable Energy:

Provide education on the importance and consequences of energy conservation, have to make it relevant to individuals' daily lives with inclusive, cross-pollinated groups (government, main street, children, education) (e.g. load shedding, walkable communities, local resources, smart metering)	48%
Create an overall plan for social mobilization in communities understand who the changemakers are and engage them	28%
Influence and educate the constituents and customers - invite your enemy to lunch	15%
Provide change agents with needed resources	13%

Miscellaneous ideas to improve Energy Independence and Renewable Energy:

Make northern Colorado a beacon as a resource for green technology R&D and education	29%
Long term planning and funding at local level	26%
Identify existing opportunities -maximize performance with existing conditions	25%
Create a state commission on population and sustainability and carrying capacity	20%

Action Items

Participants suggested following up on the priority to promote energy by pursuing the following actions:

	# participants signed up to move this action item forward
Bring together small regional groups of people from cities, counties and service providers to work together and find parallel solutions	9
Research and quantify true holistic cost (that incorporates triple bottom line) of current energy resources	12
K-12 education for 21st century realities across disciplines	5
Mechanism to deliver information on energy usage	6
Encourage governor to develop renewable education cluster, have as part of campaign, responsibility to citizens	4
Take steps to level the playing field between RE and fossil fuels (Remove subsidies)	8
Go to local businesses and ask for a package of coupons as a benefit for completing energy conservation education. Collaborate with the Governor's Energy Office to organize and certify training teams. Design the training to help both residences and businesses. Provide public service announcements to support public education on renewable and sustainable education programs. Emphasize the public-private partnership benefits.	2
Create a national energy consumption game to appeal to our competitive spirits	7

Table by table discussion -- Details

Q1. What are the key barriers and corresponding solutions to the issue of energy independence/renewable energy development?

Starred items are the top solutions chosen by each table.

Table 01

Barrier: Lack of public understanding of energy resources and alternatives.

Solutions:

1. ★ Create an overall plan for social mobilization in communities - understand who the change-makers are and engage them.
2. ★ Identify true incentives to adopt clean energy/energy efficiency, educate on those specific incentives.
3. ★ Create a strong package of local, regional and state regulations bundled with incentives.
4. Strong curriculum for children while they are young to change thought processes.
5. Educate individuals on real time energy use in their homes.

Barrier: People are not mobilized to take action on energy efficiency or clean energy in their own homes or businesses.

Solutions:

1. Educating businesses and individuals on what actions to take in their own homes and businesses, giving action plans to mobilize both groups.
2. Intercept people with energy efficiency solutions where they need them - @ home depot, etc.

Barrier: Lack of large scale energy improvement infrastructure.

Solution: Build alliances of experts and champions to engage the whole community.

Barrier: State laws have not caught up to the progressive communities and utilities are bound by these laws.

Solution: Organize politically to talk about the issues.

Barrier: Lack of understanding of external costs of traditional energy.

Barrier: Lack of understanding of by the utilities of what their customers really want - switching to a service vs. product.

Table 02

Barrier: ★ Public perception and education.

Solution:

1. ★ Create programs to educate the public.

Barrier: ★ Infrastructure and the built environment.

Solutions:

1. ★ Physical: designing new technologies.
2. ★ Costing/Financial
3. ★ Education

Barrier: ★ Financing

Solutions:

1. Municipalities take more control of costs.
2. End Users
3. ★ Base rates on all costs (triple bottom line).
4. Recognize externalized costs.
5. Budgeting at local level.
6. Pass federal legislation.
7. ★ Long term planning and funding at local level.
8. ★ Modifying accounting systems to recognize external costs to account for O&M over lifecycle of asset.

General Barriers

The Economy
 Current Accounting Methods
 Work Force Development
 Access to funding and credit
 Recession
 Transitional Costs
 Defining the scope of the problem itself
 Population Growth on Energy Demands
 Conflicting Agendas
 Land Use Planning
 Time
 Prioritizing Solutions/Agendas

Table 03

Barrier: Policy/Legislation

Solutions:

1. Internal organizational conflicts on vision/path to vision.
2. Provide change agents with needed resources.

Barrier: Limited financial resources and high cost of implementation.

Solutions:

1. Outreach, education regarding rebates and incentives.
2. Creative solutions on the banking side. (e.g PACE).

Barrier: Perceived cost vs. benefit by consumers.

Solution: Educational programs

Barrier: These terms live in the abstract still. We have no solid/united visual for energy independence.

Barrier: Limited knowledge of renewables...Where to start? What do I invest in first?

Barrier: Renters vs. Owners vs. Students- Liability and responsibility pose problems for implementation

Table 04

Barriers

1. Attitudes for saving energy/conservation.
2. Existing building have limitations - proactive efforts can make a difference.
3. Administrative barriers - not enough personnel, which limits opportunities to work on new ideas.
4. Leadership changes in organizations can lead to change in philosophy.
5. Political barriers - becomes a polarizing issue as opposed to making good decisions - political barriers become inhibitors in the future.
6. Financial - first cost versus life cycle cost - modeling forecasting is key to decision making.
7. Interagency competition - shared costing issues.

Solutions

1. ★ Investing in integrated design and upfront decision making.
2. ★ Influence and educate the constituents and customers - **invite your enemy to lunch.**
3. Incentivize design and goals.
4. Know what you have now - invest in efficiency.
5. Improve the funding process - streamline (i.e. DOE, EECBG - hard to deploy).
6. Developing a collaborative partnership for sites and building decision making.
7. ★ Identify existing opportunities - maximize performance with existing conditions.
8. Political collaboration must be had and changes create difficult dynamics for implementation.

Table 05

Barrier: Subsidies to fossil fuels.

Solutions:

1. ★ End subsidies to fossil fuels - shift them to renewable technologies.
2. ★ Enact true pricing for the cost of energy including externalities. Pass onto users (businesses and individuals).

Barrier: Public and political will and ideology, people think reducing energy consumption

is not necessary.

Solutions:

1. ★ Provide education on the importance and consequences of energy conservation; have to make it relevant to individuals' daily lives.
2. Create financial incentives.
3. Create skilled workforce for making renewables possible.

Barrier: Transmission infrastructure for renewables is not in place. Existing infrastructure inefficient.

Solutions:

1. Build more localized and distributed power generation, have the loads and generation in same place.
2. Upgrade existing grid technology.

Barrier: No negative incentive to using current energy sources, what is the penalty or consequences of flipping a light switch?

Solution: Pass carbon or dirty power tax for consumers.

Barrier: Have the technology, but there is a lack of funding and built-in subsidies to the fossil fuel industry (nonrenewables).

Barrier: Existing infrastructure for fossil fuels – it's cheap, subsidies become calcified until they are part of the infrastructure.

Barrier: Inertia on an individual level, don't understand all the implications. The penalty is too far on the horizon.

Table 06

Barrier: ★ Lack of education and communication.

Solutions:

1. ★ Northern Colorado becomes a beacon as a resource for green technology R&D and education.
2. Identify best practices and benchmark where we are.
3. Utilities should be sending out rebates and incentives directly to the end users.

Barrier: ★ Economics and Affordability

Solutions:

1. Lack of funding for infrastructure to support energy innovations, e.g. smart grid.
2. Transportation infrastructure, especially around public transportation.
3. Energy Conservation, what can you do to drop the amount of energy you need?
4. Upgrade and energy conservation of buildings as well as new construction.
5. Find solutions that pay for themselves?
6. Make gas and coal energy more expensive so fewer people use them. On the flip side make renewable energy more affordable. Have a tax on nonrenewable energies so you can replace it with renewable energies.

7. ★ Offer incentives to people to be more energy savings and reductions.

Barrier: ★ Population growth and consumption impact on environment.

Solutions:

1. ★ Create a state commission on population and sustainability and carrying capacity.
2. Implement smart growth systems.

Barrier: Deployment and R&D of technology.

Barrier: Inequitable rebates across county, cities and utilities.

Barrier: Environmental implications of each energy source used.

Table 07

Barrier: Inventory of existing inefficient buildings.

Solutions:

1. ★ Incentivize current building owners/parties/industry to promote efficiency and renewable use.
2. Utilize PACE concept to allow for retrofits.
3. Provide owner education.
4. ★ Create mandates that promote renewable energy.

Barrier: Societal understanding that we are now or will be soon with a declining fossil fuel availability.

Solutions:

1. ★ Provide public education and public awareness with inclusive, cross-pollinated groups (government, main street, children, education)
2. Educate the children.

Barrier: Resistance from industry to use renewable energies.

Solution: Educate consumers to pressure industry to accept new technologies.

Barrier: Misconception or lack of education about "energy independence".

Solution: Administering programs at the local level. Empowering local governments and groups.

Barrier: False impression because subsidies.

Solution: Remove the subsidies to remove false impression of the net impact.

Barrier: Cost differences between traditional fuels and renewables.

Barrier: What are the upstream/downstream impacts of all energies.

Barrier: What are the net impacts of the investments.

Table 08

Barrier: Where does the consumption business model for municipal utilities impede energy independence and renewable energy sources?

Solutions:

1. ★ Invest in new utilities infrastructure and move away from the consumption business model.
2. ★ Include the real cost of externalities in utility pricing.
3. ★ Educate of citizens/customers/consumers on the savings of conservation techniques, such as load shedding, design walkable communities, higher densities and localized resources.

Barrier: Political influence at the state and federal levels of conventional energy providers (fossil fuels).

Barrier: Lack of public awareness that there is a need to act on energy efficiency and renewable energy sources.

Barrier: Difficulty in assigning the full external costs.

Barrier: Perception that renewable energy science is not ready.

Barrier: Uncertainty over potential savings versus realized savings.

Barrier: Technical assistance to complete renewable and sustainable work in homes and businesses.

Barrier: Land use and community design impacts on energy consumption and sustainability.

Table 09

Barrier: Lack of education reaching all levels of population.

Solutions:

1. ★ Every home should become an energy producer equipped with means of showing production and consumption and how much it costs. Show the money savings/cost on each little or big household energy item.
2. Siting new homes and properties properly.
3. Educate building occupants on how to further the renewable technologies.
4. Get information out to the population on the small, easy ways to reduce energy consumption i.e. don't leave lights on, wash clothes during non-peak usage hours, bake small batches in toaster oven vs. larger oven, etc.
5. Make it exciting and "sexy" to save energy; have a green team that goes around to each home for encouragement.
6. ★ Raise taxes on energy consumption or charge for high energy usage during peak hours to "hit them where it hurts".
7. ★ Switch to demand rate billing for energy usage.
8. More push on individual home owners to invest in renewable systems; give them the understanding and knowledge.

Barrier: The available technology today relies heavily on fossil fuels.

Solutions:

1. Invest more in research on new technologies.
2. Upgrade all meters to "smart meters" that allow people to interact with their appliances.

Barrier: Economic feasibility of changing over to renewables and how much time it takes to make the change.

Barrier: Inadequacies of the subsidies for the different types of energy and the current existing infrastructure.

Barrier: Lack of coordination of energy suppliers to cut down on overlapping/inefficient programs.

Barrier: Buildings use more energy than any other area, lack of energy usage feedback and actual energy costs.

Barrier: Lack of information on renewable energy options.

Barrier: Cost of renewable energy systems.

Barrier: Transportation's dependence upon non-renewable energy.

Barrier: Energy consumption is so great that it makes changing more difficult.

Table 10

Barrier: Renewable energy sources are not affordable.

1. Supply and demand - make the capital investment. Development of private and public partnerships including transmission lines.
2. Traditional energies need to cost more so that there is matching with traditional and renewable energies.

Barrier: Conservation efforts.

1. Smart metering / smart grid and educating the consumer to understand their energy usage
2. We need to reduce our demand.

Barrier: Available transportation choices.

1. In Northern Colorado: Re-establishment of commuter and passenger rail lines including the BNSF line.
2. Develop land use policies that promote a transit-oriented development focus.
3. People living and working in the same community.

Barrier: Everyone is looking for a quick payback that is often unrealistic with renewable energy.

Barrier: Energy independence can be achieved through nonrenewable energy sources more quickly.

Barrier: Transmission and storage capabilities.

Barrier: Nuclear energy barrier is poor management of mining. Nuclear power is not universally accepted.



Barrier: Government subsidies are hard to account for.

Barrier: Technology.

Q2: What are the next steps for action?

All previous barriers/solutions were determined to fall in the following categories and participants were asked to focus on 1-2 categories for their discussion on “next steps for action”. The starred item was their choice for the top action item.

1. Education
2. Market Correction
3. Incentives

Table 01

EDUCATION

1. ★ Bring together small groups of regional group of people from cities, counties and service providers to work together and find parallel solutions.
2. Have non-profits and service providers with solutions come to regional meetings.
3. Benchmark energy usage and compare across facilities, communities, regions.
4. Give real time feedback on energy usage so people can make immediate changes - at your computer, in your home.

Table 02

MARKET

1. Put a price on carbon.
2. Put a price on the triple bottom line.
3. Create new incentives by redistributing national costs.
4. Research what current true costs are.
5. ★ Research and quantify true holistic cost (that incorporates triple bottom line) of current energy resources.

Table 03

EDUCATION

1. ★ K-12 education for 21st century realities across disciplines.
2. True costing as an educational instrument.
3. Educating officials.
4. Training alongside education.

Table 04

MARKET

1. ★ Mechanism to deliver information on energy usage.
2. Setting the value of costs for impact analysis.
3. Developing the model to develop costs impacts.

Table 05

EDUCATION

1. ★ Encourage governor to develop renewable education cluster, have as part of campaign, responsibility to citizens.
2. Start with kids, implement energy education programs into curriculum.

INCENTIVES

1. Communicating price signals on their energy use (lava lamps in Boston pilot study).

Table 06

INCENTIVES

1. Have utilities include a flyer with their bill to announce the incentives.
2. Utilities has customers pay 1-2% and use that money as a way to fund "fee-bates" and incentives.
3. ★ For people who have energy audits, have incentives to get people to follow through...or have people pay for the audit and get a rebate if they follow through with the suggestions.
4. Require contractors to get certified that assures a certain quality of work.
5. Have contractors drive the changes.

Table 07

EDUCATION

1. Educate not preach by showing option and how it might affect my pocketbook. Downplay the environmental side.

MARKET

1. ★ Take steps to flatten the playing field between RE and fossil fuels. (Remove subsidies)
2. Promote the reinvestment of dirty energy profit into diverse, non-dirty energy portfolios.

Table 08

EDUCATION

1. ★ Go to local businesses and ask for a package of coupons as a benefit for completing energy conservation education. Collaborate with the Governor's Energy Office to organize and certify training teams. Design the training to help both residences and businesses. Provide public service announcements to support public education on renewable and sustainable education programs. Emphasize the public-private partnership benefits.

Table 09

EDUCATION

1. Reach out to soccer moms, churches, PTA, scouts, kids.



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2. Determine the target audience and figure out how to reach them - who isn't already involved.
3. Model good behavior - walk the talk.
4. Have all energy bills display your energy usage in comparison to your 25 closest neighbors along with what amount you saved/spent based on your average level (if you used more you spent x amount more).
5. Have an inside meter displayed in a prominent place that shows your usage - make it a competitive game, focus on kids video game obsession.
6. ★ Create a national energy consumption game to appeal to our competitive spirits.