Outline for Advocating Clean Energy

New Mexico Coalition for Clean Affordable Energy
Contact: Email: info@NMCCAE.org.
Website: www.NMCCAE.org

Identifying your Representatives:

- See www.vote-smart.org (enter your 9 digit zip to get complete info. The site has a link to help you find your 9 digit zip as well, just using your address).

Communicating

- Building Credibility and "Resonance":
    - Appropriate Physical Appearance.
    - Positive, friendly attitude.
    - Sufficient knowledge of the policies and technologies involved, to avoid easy deflection based on red-herrings.
    - Appropriate motivations/representation (sincerity, lack of conflict of interest).
    - Leverage: Do you happen to have some particular leverage, or something in common (e.g. you both enjoy collecting civil war curios, you're related somehow, you both went to UNM, etc).
    - Know your legislator:
        - www.vote-smart.org has all sorts of biographical info.
        - Google the legislator's name
        - Ask around.
        - See scorecards at www.cvnm.org.
    - Learn to take a joke!
    - Does and don'ts:
        - Don't overdo it
        - Don't under do it (they work for you!)

        - Avoid anger: If they say no, or something inappropriate, respond calmly, and stay friendly, so they'll be more likely to change their mind later.
        - Don't get bogged down in an irrelevant topic: You try to talk about solar, and they want to talk about nuclear. Just listen intently, and then return to your subject.
        - Never exaggerate.
        - Never contradict valid objections: Acknowledge valid criticisms, but persuade around them (e.g. "Yes, solar *is* expensive today, but the cost trend is very good, and the benefits are great")
    - Build up a relationship: Positive relationship over the long term is more important than support right now on a particular bill. This is the secret of a good lobbyist. People are more important a particular bill.
- Aligning Agendas: How does your bill fit into the personal agenda of the legislator? Or, why do you need *their* help in particular (Are they simply on the right committee? Are you expecting an attack on a particular point in the process?)
- Avoid being deflected by various excuses:
    - Ask for their defense, or even *championship* of your bill, not just mere support, even if they are not the sponsor:
        - Defense and championship require knowledge, talking points: Provide this if you can. One page "fact sheets" are the accepted means.
        - Legislators prioritize: Champions need to make your bill a priority; Defenders don't need to make your bill their priority, but still require knowledge and a heads up when the bill is coming.
    - Ask for help in *all* arenas, not just floor votes:
        - Interim Committees
        - Committees
        - Caucuses
        - Floor votes
        - Conference Committees
        - Leadership Decisions/prioritization
    - Be prepared to counter red-herrings, such as:
        - "Solar is too diffuse and weak"
        - "Solar is too expensive"
        - "Solar panels are ugly"
        - "Wind turbines kill birds"
        - "Tax credits didn't work before"
    - Be aware of potential hidden agendas:
        - The legislator dislikes the Governor, and your bill is a governor's bill (has the Governor's official stamp). Tell'em it's also a people's bill, or a great bill, etc. Don't let the politics get in front of the content.
        - The legislator's biggest contributor has already panned the bill.
        - The legislator had a fight with their spouse that morning.
        - The legislator wanted to be the sponsor.

        - The legislator dislikes the sponsor.
        - One of the legislator's own bills is being help captive in a committee by your bill's sponsor. Your bill is actually a hostage.
        - The legislator thinks your bill is good, but not politically feasible, and would rather not waste time on it.

General Rules of Legislative Politics

- Most legislators want to do the right thing.
- Your worst enemy today may be your best friend tomorrow.
- One week is a year in politics, but it still usually takes several years to get something passed. It's a long, frustrating process. Persistence pays off.
- You will likely not know what really happened till much later, if ever.
- Legislators are overwhelmed and drowning in a sea of bills, most of which they only have vague ideas about. Be compassionate, and us this to your advantage, because:
- Legislator's opinions are therefore very strongly influenced by lobbyists, politics, and citizen advocates.
- The Legislature likes to hate the Public Regulation Commission, especially pro-utility types. Watch out for this kind of institutional bias.
- Pro-industry legislators also often hate the environment department.

Working with Allies

- Be familiar with and coordinate with allies.
- Join the CCAE Clean Energy Network (and other appropriate networks).
- Be aware or utilize *formal* Allies if you can (those that have lobbyists):
    - Renewable Energy Industries Association (REIA-NM.org)
    - AG interests: Dairy Association, Cattlegrowers, Ranchers, etc.
    - Other public interest/environmental groups
    - Municipalities

Understand the Process:

- Legislative Website: www.legis.state.nm.us
- CCAE legislative updates:
    - Join the CCAE Clean Energy Network (online at www.NMCCAE.org)
    - Daily updates on website during session (www.NMCCAE.org)
- Bill Drafting (Legislative Council Service, 4rth floor of Legislature)
- Bill Introduction (get it introduced early!)
- Lobbying:
    - How to find a legislator (develop a good rapport with their staff)
    - Know how to "pull them off the floor" (you'll need business cards)
- Working Committees:
    - Understand scheduling (controlled by chairs)
    - Prepare to wait: Its and unpredictable, time consuming process.

        - Know the protocol: “Mr. Chairman, members of the committee, thank you for the opportunity to comment on this bill. My name is …”
        - Keep your comments brief, to the point, and friendly.
    - Working Floor Votes:
        - Again, be aware of scheduling issues.
        - Making sure key defenders are on alert, on the floor. If you really know a legislator well, use their cell phone to call them on the floor, but only during emergenies.
    - Be aware of the quid pro quo dynamics of the process: Bills are traded, sacrificed, held hostage, intentionally delayed as a soft kill tactic, etc.

General Clean Energy Talking Points:

- Jobs, jobs, jobs!
- Water savings.
- Independence from foreign oil.
- Environmental benefits.
- Rural economic development.

Know your technologies:

- Resources:
    - New NMSEA curriculum (coming soon): www.NMSEA.org
    - “Go Solar Guide” at www.NMCCAE.org, and other docs
    - Many other websites out there. Google, google.
    - Go kick the tires!
- Photovoltaics:
    - 15% conversion efficiency, which is actually not bad for electricity generation. Its not efficiency that counts – its cost and longevity (quality).
    - An array with an area equivalent to the floor area of a typical bedroom is enough to power the typical home.
    - 30 year lifetime (minimum)
    - 3-5 year “energy payback”
    - Cost is about 3 times grid power: ~24 cents/kWh, or $10/watt today.
    - But cost is predicted to be competitive with retail power by about 2016 (Western Governor’s Clean Energy Report, 2006).
    - Very low maintenance.
    - Industry growing 30-40% per year: Many in NM.
    - Technology is advancing rapidly.
    - Toxicity issues can be well mitigated, and may disappear completely as silicon volume decreases or new processes are deployed.
    - The current shortage of silicon is a short-term problem for sure: New silicon processing facilities are under construction, and new PV technologies are using much less silicon.

- Concentrating Solar Power (CSP):
    - Definition: CSP is any solar electric generation that uses large mirrors of some kind to focus solar heat. Generally this is an utility-scale approach (not always though – see www.hdsolar.com).
    - Outlook:
        - Several CSP technologies (not all) can provide true "baseload" generation capability through a) the use of thermal energy storage and b) small amounts of fossil fuel backup (5-25%, depending).
        - CCAE is promoting CSP very strongly now as a near term alternative to new coal and nuclear plants.
        - CSP projects are now emerging in many countries around the world (see www.solarpaces.org), especially Spain.
        - There are arid regions all around the globe, north and south of the equator, that could provide most of the World's energy by 2050.
        - DOE predicts CSP can be competitive with wholesale power generation if 2 to 3 gigawatts are deployed ("Sargent and Lundy" report, available at www.solarpaces.org)
        - A New Australian CSP technology may accelerate things: More on this technology (called "CLFR") below.

    - There are at least five kinds of CSP technology, each with its own characteristics, advantages, and disadvantages:
        - Steam Production Based CSP:
            - Parabolic troughs (354 MW in CA!): Proven, fairly good cost outlook (but perhaps not the best). These heat a working fluid (usually a synthetic oil) to generate steam to make electricity. Can use "molten salt" energy storage, and "dry cooling" to lower water use (water is not a major stumbling block).
            - Power Towers: These focus light onto a central receiver to generate steam. The working fluid is usually molten salt. This may be a very effective CSP technology if developed to large scale. Can also use molten salt energy storage, and "dry cooling" to lower water use.
            - Compact Linear Fresnel Reflectors (CLFR): This new Australian technology uses long, nearly flat mirrors to focus on long linear receivers. We believe it *may* be much cheaper that troughs. It is also being proposed to utilize an underground steam storage technique (called "cavern storage" that also may be much cheaper than molten salt). See "Design of a 200 MWe Solar Plant", at www.solarheatpower.com (click on "Research"). An Albuquerque based CLFR start up is www.skyfuel.com.
        - Hot Air Production Based CSP:
            - Solar Dishes: These focus light with a circular parabolic mirror to generate hot air, which drives an air driven

generator called a "stirling engine". No water is used, and dishes are highly efficient, but their costs and reliability are still in question (despite the fact that CA utilities have several large contracts for these). They also cannot incorporate storage. They might be able to use natural gas as an auxillary heat source, although this is still in question (from a cost standpoint).

        - PV Based CSP:
            - Large Concentrator "Concentrating PV": Basically a solar dish, like above, but with a small high temperature pv cell at the focus instead of stirling engine.
            - Small Fresnel lens "Concentrating PV": Lots of small fresnel lens, a few inches across, focusing on a small pv cell, all put together into a giant flat array.
            - Micro-concentrating PV: A new approach using even small lens and cells, under development by Energy Related Devices here in Los Alamos, NM.
    - CSP Potential in NM: The Western Governor's Association 2006 Clean Energy Report estimates NM CSP potential at 1940 gigawatts! (our state has about 4 gigawatts of conventional generation today).

- Wind Power:
    - Wind is directly competitive with gas-fired generation (its 4-6 cents/kWh today).
    - Costs of wind power (and everything else) have increased lately due to higher steel prices, etc.
    - Wind farms have negligible impacts on birds if they are built away from migratory pathways.
    - New Mexico wind potential is estimated at around 20 gigawatts, mostly on the eastern plains.
    - More transmission for wind power will be needed if NM is to become a major wind generator, but this is not a showstopper.
- Solar Thermal (solar hot water, solar hot air):
    - Solar tax credits in the 80's *were* indeed problematic: There were no technical standards, the credits were too generous, and the credits were pulled back quickly instead of gradually reformed.
    - Today's solar tax credits are much more carefully designed:
        - Pre-certification of systems by the Energy & Minerals Dept is required.
        - Tax credits will sunset in ten years.
        - Credits are more modest (30%), and leverage, not add to, federal credits.
    - The technology is much more mature, and certification programs exist: See www.solar-rating.org (for panels), www.nabcep.org (for installers).
    - There *are* problems today with a lack of competition in the NM solar thermal industry, but things are improving.

- Solar thermal pays back in 5-15 years, depending on price, type, and details of systems.

General Renewable Energy/Efficiency Outlook:

- Yes, efficiency is the cheapest source of emission reductions, but we know that it's very hard to even level out emissions with efficiency alone, because the 3-6% annual growth rate of electricity consumption is huge. See SWEEP's "The New Mother Lode" study at http://www.swenergy.org/ for an assessment of NM energy efficiency potential.
- Renewables should therefore not be put on a lower priority than efficiency.
- Ideally, energy efficiency should be used to enable renewables, and both should occur at once: Use those cost savings to pay for renewables (if renewables actually cost more to begin with).
- Distributed renewables, even with their fast growth rate, are not likely to be enough. There are over 100 new coal plants planned in the US today, and over 25 new nukes in the works. China builds a new coal plant every week on average. We will need an all-out, world-wide push for all renewables, distributed and utility-scale, if we are to have any chance of reducing emissions in time.

Know How Electricity Is Regulated:

- The Legislature sets policy guidelines for the Public Regulation Commission.
- The Public Regulation Commission then issues "Rules" and "Orders" for utilities to follow.
- The PRC is a publicly elected body.
- The PRC crafts rules and orders through a complicated, legalist process involving stakeholder input (utilities, industrial energy consumers, clean energy advocates, municipalities, etc).
- Public Regulation Commissioners are heavily influenced by input from private citizens: They're elected!
- Private citizens can be involved in the "rule makings" and "cases", although this is difficult, and most parties have lawyers and retain expert witnesses. CCAE has the machinery to do this.

Know Your Policies:

- Make it a habit to study policy. It's only boring till you really get up on it.
- For past and proposed policies see www.NMCCAE.org.
- Join the CCAE clean energy network: also at www.NMCCAE.org.
- For US clean energy policies in general: www.DSIREusa.org.

Existing New Mexico Clean Energy Policies:

- 1998: Net-Metering (PRC) Rule: Allows systems under 10 kilowatts to interconnect with the grid and "spin the meter backwards". The PRC currently has a case underway to increase the threshold (to at least 100 kw and possibly much higher).
- 2002: Production Tax Credits for Large Scale RE: Provides 1 cent per kilowatt-hour (kWh) for production of solar, wind, or biomass power from a facility 10 megawatts or larger.
- 2004: Renewable Energy Standard (10% by 2011): Also called a "Renewable Energy Portfolio Standard", or "RPS". Requires investor-owned utilities (but not co-ops) to provide 10% of their power from renewable sources by 2011. Solar power gets triple credit, geothermal and biomass get double credits, compared to wind power. Utilities can buy credits from other utilities, or even from customer-generators (e.g. net-metered PV systems). Utilities *must* diversify their "portfolios".
- 2004: Utility Voluntary Green Power Programs: Utilities and co-ops must offer green power at some premium price approved by the Commission, and cannot count those sales towards their RES requirements.
- 2005: Energy Efficiency Act: Investor-owned utilities must offer significant energy efficiency programs that are proven to be cost effective.
- 2005: Clean Energy Revenue Bond Act: Schools and state agencies can issue up to $20 million in bonds (collectively) for energy efficiency upgrades and use the net savings for renewable energy.
- 2005: Photovoltaic Credits Buy-Back Program: PNM is now offering to buy the Renewable Energy Credits, or "RECs" from net-metered PV systems for 13 cents per kWh, above and beyond net-metering benefits, and for every kWh of solar power generated (whether or not its fed back into the grid or utilized by the customer-generator). PNM then counts those credits towards their RPS requirements.
- 2005: Excise Tax Exemption for Hybrid Vehicles: Reduces the cost of a hybrid by about 3%.
- 2006: Solar Tax Credits: Provides a credit worth 30% of the cost of a certified solar system (pv or active solar hot water or hot air), *minus any applicable federal credits for the system in question*, up to $9000. A taxpayer can carry over the credits for up to ten successive years if their tax liability is not large enough to absorb the full credit in the first year. See the "How to Go Solar Guide" at www.NMCCAE.org for details.
- 2006: Executive Order for 50% more efficient (state) buildings: This is the first implementation of the "2030 Challenge" started by architect Ed Mazria, which Ed

is promoting worldwide as major emission reduction strategy. See www.architecture2030.org.

- 2006: Executive Order for Alternative Fuels for State Vehicles.
- 2006: Executive Order for Greenhouse Gas Reduction Targets: The Governor set strong GHG reduction targets for NM, and established an "Advisory Group" process to develop recommendations: See http://www.nmclimatechange.us/.
- 2006: Memorials for:
  - Explore Renewable Fuels Standard
  - Examination of Electric Co-op consumer issues
  - Examination of Mercury Pollution Issues

Policy Developments at the Public Regulation Commission

- Increase Net-metering threshold, and update interconnection standards.
- Energy Efficiency Implementation: Get utilities really going on efficiency.
- Integrated Resource Planning Rules: The PRC is establishing new "IRP" rules requiring utilities to go through a much more comprehensive planning process that can take into account global warming risks and other factors.
- Utility RPS Procurement Plans: Each year the utilities file renewable energy plans to meet the RPS requirements. We utilized these to get PNM's PV buyback in place, and are now pursuing this path to get the first CSP plants built.

Other Clean Energy Campaigns

- 50,000 Solar Roofs Campaign (led by New Mexico Public Interest Research Group: www.nmpirg.org).
- Clean Cars (also led by NMPIRG)
- Biofuels and Electric Cars (led by www.renewableenergypartners.org, Charles Bensinger).
- Tri-State Power Generation Issues (see above)
- Concentrating Solar Power (Baseload Solar) Development
- Green Tags Program: CCAE establishing a program whereby people can purchase renewable energy credits to offset their emissions and support local renewable energy generation.
- Distributed Wind Initiative: CCAE helping local AG interests get some local wind and biomass projects going.
- Sierra Club Cool Cities Campaign