



**Climate Action Plan
Citizen Advisory Committee Minutes
December 15, 2014**

215 N. Mason Street, Community Room
5:30 p.m. – 9:00 p.m.

CAC Members: (X = present)

Bill DeMarco	X	Harry Edwards	X	Rich Fisher	X
Bryan Watkins	X	Holly Wright	X	Sara Frazier	
Chadrick Martinez		John Holcombe	X	Carol Dollard	X
Dana Villeneuve	X	Kellie Falbo		Stacey Clark	
Dianne Ewing	X	Marge Moore	X	Suraj Renganathan	X
Hunter Buffington	X	Mark Easter	X	Tom Ghidossi	X
Glen Colton		Mike Freeman		Yvonne Myers	
Greg Rittner	X	Olivia Stowell	X		

In attendance:

Staff: Lucinda Smith, Cassi Nichols, Emily Wilmsen, Melissa Hovey, Travis Paige, Bruce Hendee, Paul Sizemore, John Phelan

Consultants: Becky Fedak – Brendle Group, Judy Dorsey – Brendle Group, Zach Taylor – Brendle Group, Coreina Chan – RMI, Martha Campbell – RMI, Aman Chitkara – RMI, Greg Rucks – RMI (on the phone)

Facilitator: Art Bavoso

Guests: Mark Hoadashelt, Paul Herendeen, Gary Thomas, Brad Decker, Beal Lowe

Public Comment and Announcements

Gary Thomas: Offers the committee an opportunity to schedule a Regional Air Quality Council presentation of air quality issues from the State of Colorado

Rich Fisher: The air quality board has been considering what is being discussed at the CAC and has some suggestions (see hand out of email). Ultimately, the board recommends that the City of Fort Collins support the CAP goals.

Mark Hoadashelt: The work that the Brendle Group is doing is fantastic, but it's a little difficult to evaluate this from the outside. It would be good to have timelines and cost figures. Generally, City Council may want to consider evaluation in terms of urgency and ease of implementation (political, social, technical, etc.).

Approval of November Minutes

Tom Ghidossi moved and Hunter Buffington seconded a motion to approve the November 20, 2014 minutes. Motion passed unanimously.

Where we are in the process, recent feedback, and goals for tonight

Lucinda: Work is being done to develop a matrix of potential finance strategies and carbon reduction strategies. The goals for tonight are to get input to formulate at least two scenarios and conduct a straw poll on options.

We have now had three work sessions with City Council. Last week's City Council work session seemed to indicate that Council wanted a little more public engagement specifically involving neighborhood groups. In general, it seemed that Council wanted to underscore the role of Platte River Power Authority (PRPA) and the importance of working with them and looking at both impacts and benefits to Platte River. Also, there were a couple of concerns expressed about language in the draft list of strategies and tactics. The plan and strategies include a mix of voluntary actions, incentives, and mandates. The way the mandates were written in the plan it says "requiring" and they acknowledged that these are things that have to be looked at, but it does not mean that adopting this goal would automatically mean adopting these mandates. Council was really interested in the triple bottom line assessment. We are getting some good feedback from stakeholder groups.

Model update and review

Becky gives an overview of model updates based off of CAC feedback. She also discusses that preliminary results from Platte River Power Authority have been added to the model. This is still draft, so the model will continue to be updated as more information becomes available.

- What is being used for the cost of carbon?
 - Becky: We're using what PRPA provided for electricity and \$25 per ton for natural gas and transportation fuels.
- From Bendle and RMI's point of view did making some of these changes seem reasonable?
 - Becky: Yes, I think these were conversations we were having internally anyway in terms of particularly the balance between new construction and existing buildings. It allowed for some good dialogue amongst our group.
 - Coreina: I agree.
- There was a slideshow from PRPA and some of their projections, so are you going to be going over some of these details?
 - Becky: We will when we get to some of the scenario analysis, but we won't get into too much detail. We just got it at the end of last week, so we're still trying to figure out how these are talking to each other.
 - John: That was the presentation that was given the Platte River board for their strategic plan. It was for a different goal of meeting their strategic plan. They have taken those same tools and they have begun to model different scenarios.
- What is the source of revenue for the costs that the city will incur?

- Becky: that is something that the finance committee is going to be meeting about. We have not been able to add all of those details yet.
- Lucinda: it is also fair to say that the City's money is the tax payer's money, so it's going to be important to develop a financing model because some of the strategy proportions might change.
- When you say net cash flow is that cumulative?
 - Becky: This shows per year, but we can present it both ways. Any feedback on how to present this is welcome.
- If it were cumulative, it may be really ugly. If you're going to do cumulative it would be better to go out to 2050. This is because the cash flow doesn't reset every year like an income statement does.

Strategy/tactics review

Advanced Renewable Energy at the Utility Scale

Becky gives overview of the strategy.

Judy: We're going through this a second time when you have the benefit of knowing where we are relative to the goal. Now is your chance to be filtering all of this feedback with the benefit of knowing where we are. This will especially be helpful to the finance committee.

Becky: There is still a lot to refine in this strategy as we get more information from PRPA.

Lucinda: We added some information about what is coming up either through recent action or through the budget process. Platte River is making huge progress in expanding renewables. Their board just approved an additional 30 MW of solar at Rawhide.

- Are these strategies referring to the numbers by 2050?
 - Becky: this is all by 2030
- Is that reduction like much of our other efforts where there's a bump initially and then it gets more difficult as time moves on?
 - Becky: that's something that we are working with Platte River on right now. The current results look like a steady drop and then a significant drop when Rawhide is taken offline. These are conversations that we will continue to have as more information becomes available.
- What percentage of overall production is the 30 MW?
 - John: I'm taking a guess here, but it should be around 1.5-2% of the total energy mix.

Increase Energy Efficiency – Residential and Commercial

Becky: One of the things we're working on (that RMI has already done), but we need to provide some update to, is scaling to show what contribution of the overall reduction is coming from the residential

sector and the commercial sector. We're looking mainly at the integrated utility services model for both sectors.

John: I think we also envisioned the integrated utilities services model operating in parallel with a lot of things that we are currently doing. To get to the really high levels of participation, we may suggest auto enrollment rather than opt out.

Coreina: We are trying to allow the community to seek benefits of implementing this on a large scale, and realize bulk pricing. The utility is so central because the utility already has access to these individuals on a large scale.

Art: Don't forget where we're headed, there will be a vote at some point. Keep that in mind to filter as we look at this.

- If we're really going to have everyone have an opportunity and allow everyone in Fort Collins to participate, I would like to see if that impacts the ability for us to meet those goals at the residential level. Also, how accessible, in terms of price, will increased home efficiency or solar installation be?
 - John: It may be good to note that one of the foundational elements is on bill financing. We've already been to a work session to discuss this. We are considering the customers as well as establishing it in the rates.
 - Martha: When you say rates do you mean interest rates?
 - John: No, we have to establish the ability to provide on bill financing in the rate ordinance, so it would be the water, wastewater, electric rates.
- Looking at the change from 10% to 5% on the existing commercial, we're talking about 15 years from now and I think that 5% is setting the bar too low. It seems that we're spending a lot of time for this and it may be worth more than 5%. I would say the minimum we should shoot for would be 10%. This is for fuel switching.
 - This slide is only for increasing efficiency, not necessarily fuel switching. What you are talking about, I believe is on another slide.
- I don't know what percent of homes are rentals, but I would think this would be at the top of the energy list. I always tell people you should focus on the top of list. Is great for someone who owns a home, but what tools do you have for renters?
 - John: Part of the solution is that we are enabling a rental model for on bill financing that has been proven to work in a number of different areas. That's also going to come a little bit later because our billing system can't handle it yet. We are initiating a software for that.
- Is this a place for a tactic that addresses both purchasing and the idea of bulk purchasing.
 - Becky: you will see some of that in terms of the efficiency. Specifically, I don't know if that is incorporated into the integrated utilities model.
 - John: Not necessarily bulk purchasing, but with the concept of the integrated utilities model, by scale, you're going to be doing aggregated projects rather than separate tiny projects. There may be other types of consumer products that can address this.
- For "target the biggest users" how much of the full energy use pie are these big users using?

- John: I don't know the natural gas numbers, but on the electric side our top 50 probably use about a third of the electricity. That said, they've also probably done the most work on efficiency over the last 15 years.

Road To Zero Waste

Becky: this area is getting to 100% reduction by 2030 based on the existing road to zero waste plan.

Lucinda discusses plans for organics and composting as well as the 2016 budget for Road to Zero Waste strategy.

Green Building for New Construction and Redevelopment

- When you say nonmonetary incentives what are we thinking?
 - Coreina: There are things such as getting a building permit faster. These things are equal to money, but it is not actually cash value.
- Have we modeled if we use less and less natural gas that the price of natural gas goes down?
 - Becky: That's not currently included.
- Some of the builders I know talk about how they understand how to get to energy efficiency, but they don't have a **trained workforce**. Should this be included in the tactics?
 - Becky: This may be able to fit into the education and outreach.
- Does the way you are changing code cost more money for the contractors and what does city council think about that?
 - Lucinda: City council did not weigh in on this specifically, but did ask for the entire net picture. This will be important. I would say that we know Council is interested in the overall return on investment. We will try to look at impacts to big categories of users.
- Does this include remodels and new additions to homes?
 - Becky: Yes
 - Martha: One actual case study in Idaho is a study on new building codes in terms of contractors, engineers, so that it wasn't just a mandate. They had performance based programs and the contractors were included in the process. We identified this as a critical program element the city could consider.
- Does some of the information presented to council include best practices for building codes?
 - Lucinda: This is looking at the strategies and tactics at a relatively high level. Council wanted to see if it is possible to meet 80% reductions by 2030 and what some of the strategies might be, so this is not quite getting down to the detail of program design. Any sort of climate action framework plan that identifies the strategies and tactics is to illustrate that it would be possible to reach this 80%, but this is not the implementation plan. This is not at the program design level, and that would come next.
 - John: I think we can comment on how we go through the general process, both in construction and with members in the community, when we look at the procedure for the green building amendments we did back in 2010. As codes become more strict, maybe that process will become more clear too and have more input.
- Is this how you arrived at 100% solar? The 100% solar seems really optimistic.

- Becky: First, we are looking at homes and businesses today and driving them to be 85% more efficient. Then based off of that 15% that is left, we will have solar PV, so that it is net zero.
- Martha: with regards to solar potential we considered ground as well as roof mounted and the reason for that is that there are communities out there that are mandating that all new builds include solar. They're creating these solar ready zones and that's why we gave that an aggressive target.
- Why are we making solar PV and then heating it electrically?
 - Lucinda: I don't recall that, this should be either or.
 - Becky: This is on our radar. It came up in a meeting last week.
 - Martha: We do have someone on the phone that can answer. Solar thermal is not off the table.
 - Greg: the cost of solar hot water for residential scale tends to be higher than air source or ground source heat pumps. It's not off the table but the more cost effective options, such as ground source heat pumps are considered instead of solar hot water in the model.
 - Coreina: we try to be technology agnostic, but in terms of the model that Brendle has put together we have to put in something to make the projections.

Advance Residential and Commercial Solar Adoption

- When we say 22% of homes and 50% of businesses are using solar, meaning what percentage of their use?
 - Becky: I don't know off the top of my head, but I can go back and look at the model to find that.
- I'm not sure I understand how you are not double counting when solar is mentioned in three strategies.
 - Becky: Between this one and the previous strategy, this one looks at today's view, the previous is looking at a projection of new construction.
- Why is the percentage for businesses higher than for homes?
 - Becky: I think some of it just has to do with assumptions around existing practices and ability to adopt.
 - Martha: I think tactic is where the behavioral component really comes in. Ideally, the integrated utility services model could come across as a menu of options that could apply on the business side and it could apply on the residential. Depending on what you all think is realistic, but that is a critical component. This is one of those things that is about community choice.
- There are two pieces. The solar adoption is a piece that there may be a replacement for within the next 15 years versus the efficiency which is one and done. Once you put the insulation in, and all of those things, you're not really going to have to go back and do that again. Is that accounted for in the model?
 - Becky: I believe, and I would have to confirm, that we account for that on the PV strategy.

Shift Land Use Patterns to Shorten Trips and Reduce Demand for Travel

- Have you looked at the efficiency of vehicle improvements?
 - Becky: we have, we have a strategy specifically for fuel switching in transportation and we also have CAFÉ standards embedded in the model.
- What does urban growth boundary mean in this?
 - Becky: Development in a smaller in a smaller area.
 - Paul: The city does have a growth management area which is just another term for an urban growth boundary. It is the limits of how far the city would annex and expand urban zoning.
- There was some discussion about urban agriculture and the potential to increase that. It would be important to consider the urban areas that are off limits to growth as well.
- When you're talking about smart growth, you can do planning and zoning, but if this is not going to be viable for retail, that land will stay vacant. Are you including that in your model so that it will be friendly to developers?
 - Becky: I think some of that gets into this next level of analysis once we start looking into the specifics of implementation. We are at a much higher level in this, looking at case studies, best practices, and what can be done.
- Do you think that there is a chance that the land use codes will change and evolve given that we have this idea of reducing emissions? It seems there is a good opportunity for that.
 - Lucinda: I guess that there may be a possibility but I don't think there's any plan for that right now. I think that the city will be looking at what some potential land use codes would look like and what would they serve and what would they harm. We also have the Nature in the City project which is about making sure that there is access to some kind of open space.
 - Bruce: The Futures Committee is currently looking at some potential land use modeling scenarios. One of the things that will inform this is the Climate Action Plan.
- Greg: Regarding the question about land use code, I think the largest driver of how future land use is planned is parking. We can allow developers to include or not include parking based on economic considerations, but we still have to be aware of potential spill over into adjacent neighborhoods that may have free parking. We can make use of public transportation and public parking areas to reduce this impact.
- What do you mean by open transportation data?
 - Greg: This is for example, mass transit, and what transportation data does to mass transit is it makes the information available to more people on a real time basis. This increases mass transit reliability and usability. The city of Portland, Oregon is an example of this.

Drive Adoption of Multimodal Transport

- We see health as a shared benefit of this strategy but I think in this case, the health aspect is so glaring that we may need to expand on that as a possible tactic.
 - Becky: I think another way that we planned to emphasize that is in the co-benefits section.
 - Lucinda: There is a plan underway, it is the bike plan.
 - Paul: The bicycle master plan is based on building low stress networks. We rated areas based on the level of stress you would feel riding there. Then, we mapped out low stress area connections.

Accelerate Adoption of Fuel Efficient and Electric Vehicles

- How does this compare with what the automobile industry thinks is going to happen?
 - Becky: We added some of these assumptions into the model. I can't speak to this right off hand.
- But this is more aggressive?
 - Becky: Exactly
- I think a lot of people that have electric vehicles don't really understand what happens when they plug their vehicle in during the day versus what happens when they plug it in overnight. Also, I'm a little frustrated with the emphasis on electric vehicles. In this community/CSU there is so much investment in biofuels and alternative fuels. There's no emphasis on the biofuels that we have currently I would like to see more information on the potential impact of biofuels.
 - Becky: We had some conversation about the way we are communicating some of these tactics. We are looking at half of the vehicles being electric, but the other half will be more fuel efficient and I think that really includes some of the options you are talking about. I think the communication of our tactics needs to address some of this.
- The definition of an electric vehicle is it 100% electric?
 - Becky: The way that it is being modeled currently, it is all (100%) electric.
- Do you know what the average time someone keeps a car is? If people are either buying cars now or holding on to their cars longer, then how will that impact some of these goals?
 - Becky: In the model we are currently using 7 year. Part of this also includes some tactics that could potentially be encouraging some more quick turn over.
- This is just being purchased in 2030 and not the measure of the entire stock?
 - Becky: Yes, the 90% is for new purchases in that year.
- There is actually money out there today to buy a new truck or retrofit older trucks.
- You said 40% more fuel efficient, but what we really care about is emissions efficient, right? Maybe it's better to say in that sense because fuel efficient is not quite the goal we are shooting for.
- Why wouldn't rebates and incentives be part of the commercial tactics?
 - Becky: That's a good question. I think that some of it may be lumped into some of the other bullets in here. I think we do need to continue to refine some of this language.

Shift Heating Loads – Combined Heat and Power, and Biofuels, Electrification

- In your research have you been able to find other cities that have implemented an integrated utilities program?
 - John: The basis of the integrated utility services model was picking and choosing examples and putting them together into a package, so it hasn't really been shown. You can show examples of adoption rates of particular pieces of it.
 - Martha: We were looking at a series of different measures and seeing where this cut off was. We tried to segment the building stock, so we looked at pre WWII buildings, new buildings, etc. and the the building stock is very different, so we tried to reflect that in the model. It is also looking at the opportunity to cross-subsidize. The savings would finance the upgrades.

- There's a common theme of lease turn over and hand overs. Who would be responsible for that? Would that pass on to the new tenant or the owner?
 - Coreina: We looked at when is a good time for fuel switching to happen. On the residential side, for example, the boiler is breaking down anyway at a certain point. It made more sense on the commercial side to be thinking about various business sectors, and major upgrades to systems.
- There would be a cost associated with that change?
 - Coreina: The thinking is that when you change the lease, there is money spent on upgrades, or building changes anyway. The cost at this point is not so much of an increase
- Do you think that would be somehow prohibited?
 - Martha: This is where it's critical that it be paired with a mechanism like on bill financing. Once again we are highlighting that there are critical program design elements needed at the implementation stage.

Inspire, Accelerate, Mobilize, Prepare

Lucinda: I just wanted to add that this strategy area isn't analyzed yet, but we will be providing some more information on a few of the carbon sequestration strategies. The other thing is I wanted to not lose sight of the fact that the City is not the only one that has goals like this, but for example, CSU has a goal to be carbon neutral by 2050, Poudre School District is another example.

Scenarios Discussion

- I need a reminder about what is in the baseline is. What is PRPA's goal in the baseline?
 - Becky: We are assuming a PRPA reduction of 20% by 2020, a 35% reduction by 2030, and an 80% reduction by 2050
- How is that then different than PRPA's 35% by 2030?
 - Becky: The baseline is the baseline scenario rather than the baseline condition. Our wording is probably wrong on here.
 - Lucinda: Platte River's board has identified guidelines that they're working on. They are investigating the things that Becky just said, so it is in our adjusted business as usual. PRPA is looking at it, but they have not committed to it yet.
- In terms of that process, is that Platte River decision before or after the CAP goals decision?
 - Lucinda: I think it's something that the board would take into consideration. We are ¼ of the ownership of Platte River, but they are not going to complete their analysis until middle to later this year.
 - John: Platte River has been very responsive to working with the City's plans. They're modeling their entire system, and it does not model whether or not Fort Collins wants a different resource mix. I think we're kind of laying the ground work and another point is that the modeling Platte River is doing is not an operation model. In some cases, the amount of solar on the system is being modeled, but there may be other work that needs to be done along the way for the system to function well.
- I'm not following the "no cost of carbon" scenario is. Is it planned that in these other scenarios there will be a cost, such as \$25 per ton? In that case, when we try to go forward without attaching a fee to carbon?

- Becky: Right, in the model we assume a certain increase in rates as a result of that \$25 per ton. We're assuming that that additional add on in terms of rates wouldn't be realized.
- Coreina: One thing to think about what's cost effective, we talk about what's cost effective knowing today's cost of electricity. When there is a cost of carbon, a lot of alternatives suddenly look more attractive.
- It said that the airline travel was figured using DIA's numbers, is there a way to look at that number a little more realistically?
 - Lucinda: It's based on periodic surveys that DIA does. What isn't really current is that they don't do that survey very often, so the last time they did it was 2006. There is a fair amount of uncertainty in the airline miles, but it's based on annual fuel consumption and the proportion for Fort Collins travelers.
- Do most cities usually consider airline travel?
 - Lucinda: I would say no. The staff team suggested that it might make sense to take it out of the inventory, but to continue to track and report it because it is still an important education piece. It is atypical for a city our size to have it in their inventory.

Polling

- Lucinda: This is not a formal vote; it is just to get a sense of what we should bring back to you next time.
- Art: If you remember our protocols from early on, when we get to the voting next time, we're looking at 60%, a supermajority.
- Lucinda: 15 votes needed for any major decisions.

1. Air Line Travel
 - a. Keep in inventory and develop strategies to reduce? 7%
 - b. Remove and list as informational? 93%
 - c. Don't know? 0%
2. Platte River GHG reduction?
 - a. 80% by 2030 64%
 - b. 60% by 2030 27%
 - c. Not sure? 9%
3. Focus more on:
 - a. New buildings/vehicles? 43%
 - b. Existing buildings? 14%
 - c. Not sure? 43%
4. Focus more on:
 - a. Mostly voluntary approaches? 14%
 - b. A mix of both? 86%
 - c. Not Sure? 0%
5. Population growth?
 - a. Include a recommendation for lower than projected population growth? 21%
 - b. Provide the info but don't include as a strategy 64%

- c. Don't address population growth? 7%
 - d. Not Sure? 7%
- 6. Cost of Carbon:
 - a. All (Electricity, natural gas and transportation)? 64%
 - b. Just electricity? 0%
 - c. None? 0%
 - d. Provide cost information both WITH and WITHOUT cost of carbon? 29%
 - e. Not sure? 7%
- 7. Please prioritize
(1= top priority, = lowest priority)
 - a. Identify near term next steps? 29%
 - b. Improve the CAP model accuracy? 18%
 - c. Develop community engage strategies? 24%
 - d. Develop financing approaches? 29%
- Lucinda: We're working with RMI who is going to be putting together some text for the draft. You know that the 13 strategies that we have, have been categorized into 6 objective areas. it would be easier to tell the story with fewer objectives, so there are three variations we are hoping to get your feedback on
 - Committee informally votes, and most votes go to option #2.

Committee Concerns and Opportunities:

- Financials
- Housing costs
- Community engagement
- Awareness and capability
- Communication
- Important role of PRPA