



**City Manager's Office**  
300 LaPorte Avenue  
PO Box 580  
Fort Collins, CO 80522  
**970.221.6505**  
970.224.6107 - fax  
*fcgov.com*

**Minutes**  
**City of Fort Collins**  
**Futures Committee Meeting**  
**Regular Meeting**  
**300 LaPorte Ave**  
**City Hall**  
**September 9, 2013**  
**4:00–6:00p.m.**

**Committee Members Present:**

Wade Troxell, Chair  
Gerry Horak  
Bruce Hendee  
Darin Atteberry  
Gino Campana

**Committee Members Absent:**

**City Staff:**

Steve Catanach, Light and Power Operations Manager  
Katy Bigner, Environmental Planner  
Ana Arias, Public Relations Coordinator  
Tom Vosburg, Policy and Project Manager  
SeonAh Kendall, Economic Health Analyst  
Dianne Tjalkens, Admin/Board Support

**Invited Guests:**

Dr. Pat Burns, Dean of Libraries and Vice President of Information Technology at CSU  
Scott Baily, Director, Academic Computing & Networking Services

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**Community Members:**

Bob Lachenmayer, CCEC  
Myles Crane, citizen  
Kevin Jones, Fort Collins Chamber of Commerce  
Dale Adamy, citizen

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**Wade called meeting to order: 4:05 pm**

**Approval of August Minutes:** Delayed until October meeting.

**Chairman Comments:** None

## **Think Tank Item 7: FortZED Progress: Bruce Hendee, Steve Catanach and Katy Bigner**

### **Presentation Summary:**

Bruce Hendee explained the origination of FortZED. The steering committee has been working on where to go from here. Steve has been working with Rocky Mountain Institute to develop strategies.

Steve Catanach gave a presentation including characteristics of FortZED including residential, commercial, and industrial. The goal is for all energy in FortZED to be generated locally or imported regionally from renewable resources. They were recipient of a renewable energy grant that was the nexus for kicking FortZED into high gear, which developed a culture of innovation, created local jobs in a tough economy, and helped investment in community. The DoE provided 6 million dollars; local investments matched that up to 5 million. Steve discussed how they have been redefining the initiative and are focusing on 4 areas: renewable energy, smart grid, energy storage and load management, and energy conservation and efficiency. They have been collaborating to develop a work plan with Rocky Mountain Institute (eLab) and Pecan Street Research Institute. eLab is made up of large customers such as Wal-Mart, SDG&E and Fort Collins Utilities. The first project developed is the ESCo model. One question is, how do increase participation in energy efficiency programs? Buildings have a lifespan of about 100 years and many we have now are inefficient. The FortZED tariff idea is to provide a simplified model to customers in order to facilitate customers making energy improvements to their homes. Working with RMI, FortZED can look to expand the programs they currently have with the hope of bringing in outside investment and creating jobs. One example is providing customers with prepaid cards to purchase new thermostats and other approved devices that improve energy efficiency. The hope is to develop a model that is replicable across the country. Bruce added that they have been in discussion with Platte River Power Authority to be a model. Pecan Street does data collection on homes as well as industrial and commercial. Pecan Street may perform monitoring on local homes and businesses to get a base model to support the value proposition. Wade added that a group from Fort Collins visited Pecan Street and others in Austin and this is an outcome of those relationships. Steve showed a slide on Renewable Energy. They have a goal of 40MW of renewable energy produced by 2020, from the CSU wind farm, combined heat and power, and Platte River generation. He discussed load management, with a goal of 1-3 MWh in coincident peak load management. They want to deploy 2500 CrowdSource Thermostats (peak-intelligent thermostats) in FortZED, which could also go into ESCo upgraded facilities. He also discussed goals for the Smart Grid. They are developing project proposals and looking at how to fund the projects. Funding may come from outside investment, grants, DoE, utilities investments, etc. Bruce added that this all works with the City's Climate Action Plan.

### **Comments/Q & A:**

- Why wouldn't we want to expand what is going to happen to the overall city? FortZED isn't very representative of the City as a whole? It offers us a way to focus the data gathering and piloting.
- If we are trying to develop a community engagement strategy, we can focus on the businesses on College and the residences.

- Why are we using the two square miles rather than the whole city? If you have a control group, you can show success, and there is a benefit of name recognition.
- It is the legacy area of our community.
- The housing in that area has been improved because the property owners are affluent enough to improve.
- There is a neighborhood that is all south facing, which was built for solar. There may be similar points of demonstration. We can show something that is leveraging.
- Outside of Fort Collins, people think FortZED is the whole city. Look at the buildings from the '60s and '70s. You will get the most bang for the buck, with simple improvements.
- This service type model can only be effective with a lot of uptake on the program. The money isn't there unless you are doing volume. It has to be an attractive business.
- In discussing the mall, is there an opportunity to do some demonstration?
- John Phelan was actively pursuing and demonstrating the value to them of some cost effective things they could do.
- I'm hearing a compelling argument to expand FortZED. A lot of what you are doing is proven now. Who makes the decision to expand?
- The committee, which is made up of representatives from the City, Colorado Clean Energy Cluster, and CSU.
- For the two years, what are the outputs we are looking at for the money we are putting into FortZED?
- There were three projects funded through the budget: 1. An administrative budget to develop a governance model for FortZED, and community engagement and marketing; 2. Light and Power funded special projects budget to have an energy characterization study; and 3. Light and Power funded licensing for the Sims model.
- What difference does that make at the end of 2014?
- We'll have four projects with implementation, community engagement and marketing.
- A clear, measurable outcome will be reduction in our carbon footprint. The projects take place over many years. Economic vitality will be gained. It is hard to make a one-to-one connection to economic health.
- I am concerned that FortZED will get specialized attention, but what about the rest of the community? Are we losing sight of other benefits to be gained to other parts of the community?
- Solar is becoming more accessible to more customers. We have an opportunity to understand what the utility changes will look like.
- Schneider Electric ran a charrette around energy, transportation, infrastructure and water, and how you integrate across all of these. Schneider is also our connection to international. This is a leveraging opportunity.
- We don't offer specific programs for FortZED but we are using FortZED to talk up what we are doing in the community.
- It would be worthwhile to bring back to your board a discussion about how the work of FortZED is going to impact the whole community. We need to do a better job at telling the story.
- What we can do is address our built environment and provide opportunity for distributed generation for solar panels. We have struggled to tell our story.

- When I talk to experts they speak highly of FortZED and you are gaining traction.
- Take credit for the smart meters. It was in the broader context of FortZED to show how it could be applied in ways that were nonconventional.
- We may be the only one of the RDS grants to deliver a positive outcome.
- Are there behavioral scientists on FortZED? If we can figure out how to get people in rental housing to upgrade that housing, it would make one of the biggest energy use changes in Fort Collins.
- We are trying to change the split incentive, so owners and renters can have incentives to make changes. The tenant has an opportunity to save money and the owner can increase value?
- 2020 isn't far away. What about 30 years from now?
- FortZED becomes a contribution to gaining our energy efficiency goals. We have been working to adapt some philosophies from RMI, where you look at transportation, energy and built environment. The City as a community will get there together.
- There was a bottom up analysis to select project, and there is a graph that shows how we reduce our carbon to zero. These are concrete items with analysis. Whether there is budget is another thing. It is built upon innovation, investment and partnerships. Being a leader allows it to happen.
- There is no sense of exclusivity. Anything that works, we want to immediately roll out to the community. FortZED is a way to test strategies.
- If someone were to come to you and want to partner with you from outside the FortZED area, would you take them?
- There was a solar company that came to us that has offered to do an analysis of every rooftop in the City that will calculate the total energy potential of the City.
- How the brand plays locally is very important. It has really helped Fort Collins. We don't want people to feel left out.
- For the long term, one of the continuing problems is the buildings. Buildings built today will be problem buildings in 30 years. What is our plan/policy for the future? Do we identify housing stock? Do we compartmentalize the market?
- We are working with a GIS company to "heat-map" the efficiency of certain buildings to identify a more targeted approach.
- Technology changes, but the wring-out value gets smaller and smaller. The low hanging fruit has been picked. Our Council should take a tour of a new construction site to see the technical aspects of building in efficiency.

#### **DO 7: Next Steps**

- Continue to work on messaging that a layperson can understand.
- Work on changing the perception of exclusivity.
- Look at the boundaries of FortZED.
- There is a budget for community engagement. We may retool our messaging to get better engagement from the community.

**Think Tank Item 8: GigU, Dr. Pat Burns, Dean of Libraries and Vice President of Information Technology at CSU**

**Presentation Summary:**

Pat Burns presented on GigU. He said that Blair Levin, FCC, was charged with writing a national broadband plan, to beef up the national backbone of networking. BTOP was the state level model. There were also community anchor institutions, like libraries in small towns. The fourth piece was not funded, which is about building the last mile with fiber. Levin went to incumbents to say we lacked infrastructure, but cable companies were focused on video. Google Fiber was awarded to Kansas City. They have created “fiberhoods.” When they reach a critical mass of subscriptions, they begin build out in an area. Levin said to seek out the best cities to build out NGN. He believes they are university cities because they are catalysts for the community. He showed a slide of the cities and universities that have engaged in this. Google has been building out in Chicago and Seattle. They are working with Provo and Austin. SeonAh added that the research triangle park put out RFI and RFP to get bids. The municipalities within are allowed to select their own. They have similar challenges as Fort Collins. We are looking at convening a research triangle. Senate Bill 05-152 limits the ability for government to provide advanced telecom, unless the service isn’t available from a private provider or the citizens vote for it. Colorado conducted a broadband mapping study. The idea was to see if we were getting anywhere near the speed the companies were telling us we were. The study showed ½ the City was not. The question is, will Fort Collins residents and businesses have the capacity they need at prices they can afford in 5 years, 10 years, etc.? There are three possible approaches: 1. Solicit a service provider to build out; 2. Solicit an FTTP infrastructure provider; 3. Have the City deploy, own, and operate itself. We are in the innovation phase. But it is time to begin looking at next steps. CSUs suggestion is to determine the economic impact of next generation networking and develop a community vision and strategic plan. It has to be a City initiative. CSU has the access it needs, but when employees go home, they cannot access how they need to in other parts of the community.

**Comments/Q & A:**

- Barry Brinks is usually in Mugs with two laptops going doing his models. He has high utilization. How do we support that? A lot of high tech, graphics, etc, have high bandwidth needs. We should do a survey related to that. We’ve focused on clean energy and water as a cluster. What is gaining momentum is the innovation cluster.
- What is Longmont doing with their utility?
- Like Fort Collins, as part of PRPA, they put in a large fiber optics ring. They have gone to voters recently to allow them to provide data services directly to the citizens. They are setting up a utility and offering broadband to businesses. But the business must be close to the ring. They have a new business plan proposing to build out fiber to the whole city funded using a bonding mechanism.
- The cities not using Google, how are they doing? What would be a good model for us?
- Longmont and Chattanooga, TN. Their efforts were supplemented by a major federal grant.
- Have you given thought to the four cities using Platte River Power Authority?
- We are in the beginning brainstorming phase, but they will be attending Friday’s meeting.

- Have you done much outreach to legislators?
- There is an emerging conversation that 152 is not in the best interest of the community. There are conversations at CML about what is the appropriate participation.
- Can you educate the legislators?
- We have CML policy review. How do we coordinate the different channels?
- The head of Longmont utilities is an important person to talk to about how we can move forward.
- All the utilities managers have been discussing this.
- How does this fit in to the Comcast Franchise Agreement?
- Federal law distinguished data and phone from cable TV. We cannot regulate anything on the data and telecom side. When talking to Comcast we cannot make any demands of them data-wise.
- Can we get more money from Comcast? They aren't providing for our needs and we need to go forward.
- How do we maximize our future? There is an opportunity with GigU and others to provide a higher bandwidth.
- How do you insulate yourself from the advancement of technology?
- If you look at the cost of doing this (50 million dollars), most of the cost is in conduits and the fibers in the conduits.
- Who owns the conduit that is in the ground right now?
- When we develop a site, we put it in and Comcast pulls the cable through. Century Link saw they were dying on the vine. Do we become a frontrunner?
- If we get stuck in a franchise agreement, that will mean with cable TV service.
- As you negotiate the franchise, you are not comparing against anyone else. The barriers against a new entrant are very high. We are working with Comcast and working to negotiate a renewal of the existing agreement. The package they present is all related to cable TV. We can't negotiate around broadband speeds. We can't even mandate the channels in the base package. We have attempted in the past to get a commitment that when cable technology roles out we will get it within a certain amount of time.
- How do we have any leverage in negotiating, when there are no other horses in the race?
- This is part of the discussion of policy and the government getting involved. A monopoly already exists. We need to determine the high level philosophical vision and values. What is in the best interest of the community? Are any of the things we've brought up fitting with that vision?
- How does this relate to our smart grid investments? Are there opportunities there? IT infrastructure doesn't all have to be below ground.
- In our investment with smart grid, the fiber ring is critical and we've extended that with some wireless technologies. From a service perspective the metering network is important that it be isolated. Having high capacity telecommunications is critical to the Utilities mission, beyond metering. Putting the utility infrastructure in place creates excess capacity that could leverage other missions.
- We do that today through Platte River. A significant portion of our fiber is leased to generate revenue to the general fund and Utilities. Part of the challenge is the fiber we have available.

- CenturyLink owns a lot of the fiber, but we don't understand their utilization and business model. There may be some unused privately owned fiber.
- We have some on campus and would give that for free to anyone willing to come in to build and use it, as part of the incentives CSU would offer.
- What are the barriers to doing this, getting fiber to the home?
- We're at a tipping point right now. The telephone companies won't be able to support the speeds we are going to need. The cable companies aren't interested in this. When we started GigU they met with Comcast who said they would build fiber to the west where there are students and multifamily residences, and forget the rest of the city. We didn't want to do that and Comcast just wasn't interested in covering the whole city.
- An inventory of these networks would be an investment. A negotiation with Comcast would be for the City to own the fiber.
- Community vision and values are other barriers. Plus, there are legal, technical and practical problem-solving that need to happen to develop a game plan. Plus we need to see if this is a priority we want to put energy into.
- Everyone who wants to provide data wants cable as well
- What is the benefit to us of the franchise agreement?
- We get revenue and stations, content, and we can negotiate them upping their technology. In having the relationship, we are getting more predictability.
- Would they pull out of this market if they didn't have a franchise agreement?
- We sometimes shoot a cannonball before shooting a bullet. If you miss you are in trouble. What are some bullets we can shoot to calibrate a strike. It wouldn't be difficult to get Council and the community excited to do something here. We've had these discussions for a while, but haven't gained any traction. What have other communities done to overcome the costs? How does Google choose the communities it works with?
- Part of this should be in our cluster strategies, and a vision context that resonates with our community. It's not a false comparison, we are providing more than data to the home, we are providing infrastructure that goes beyond what we can today. In terms of the franchise agreement, not having one might be our best option.
- Longmont has an agreement with Comcast for cable TV.
- We have some dark fiber. Can we put together a demonstration? FortZED may be able to do that.
- We can use the opportunity of the university's very fast network to extend into FortZED. This could help inform policy makers regarding the implications.
- Can we connect with the libraries?
- We could develop a "fiberhood" type polling system to define the interest in neighborhoods.
- Could you look at a hybrid, going back to Google to work together, demonstrating the wants and desires of our community and the fiber we have already?
- If we can put some assets on the table maybe we can work with Google, but 152 is in the way. We have to take a run at 152 and should brief the legislators
- Our LRC knows. CML has had quiet conversations about this. This can easily be addressed through policy committee.

- Regarding the train quieting and demonstrating their technology, we can do a demonstration project through Mason to show how the visible proximity sensing works and how they don't have to blow a horn. Pretty soon you have a robust story.
- I have a bad feeling that we are going to lose. Someone is rolling out the railroad system and it is going to leave Fort Collins out.
- But we have leveraging points that set us apart, that Loveland and others don't have. We have the university and a unique community. We can leap-frog ahead.
- I suggest a year-to-year agreement with easy ways to terminate.
- I don't think a ten year agreement limits your ability to be proactive.
- But anyone who wants to come in is going to want to offer all.
- There are different ways to speak to the issue that will be friendlier to getting competition. This is an issue for the franchise team to work on.
- The best case scenario is that Comcast has made an investment and they decide to jump on it, but without competition they may not do that.

#### **DO 8: Next Steps**

- Evaluate assets in the infrastructure.
- What are the community vision and values?
- Franchise agreement model. How can this best play out?
- Fiberhood: What are the City's assets on the table?
- Investigate legislative aspect, and how to meet with the legislators.
- Develop strategic thought about how to go about that communication.
- SeonAh and Tom will continue to work with Dr. Pat Burns and Scott Bailey.
- 30 years out, how do we prevent painting ourselves in a corner with only one option?
- A team from this group can go to Chamber to discuss the overall issue to the community.

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#### **Additional Discussion:**

None.

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*Meeting adjourned 6:08pm.*