



City of Ann Arbor

Formal Minutes

Energy Commission

100 N. Fifth Avenue
Ann Arbor, MI 48104
<http://a2gov.legistar.com/Calendar.aspx>

Tuesday, November 10, 2009

5:30 PM 220 N. Main St., Administration Building Board Room

CALL TO ORDER

Acting Chair Appleyard called the meeting to order at 5:30 p.m. in the Washtenaw County Administration Building, Board of Commissioners Meeting Room, 220 N. Main St.

ROLL CALL

Acting Chair Appleyard called the roll and found a quorum present.

APPROVAL OF AGENDA

The agenda was approved with the addition of an Energy News Item following public input.

APPROVAL OF MINUTES

10/13/09 Energy Commission Minutes

The minutes from October 13, 2009 were unanimously approved as presented.

PUBLIC INPUT

Jim Hardin of Hardin Geotech stated that he is in attendance as a resource if that is of interest on the geothermal proposal before the Commission.

ENERGY REPORT

Commissioner Delaney shared pictures/slides regarding a conference on plug-in electric vehicles conference in Detroit with GM, DTE, and a number of other sponsors. DTE just installed two of the first public charging stations in Ann Arbor, at 425 S. Main. These meters can use cards to swipe – presently access is free.

Commissioner Bing noted that Bill McKibben will be speaking at the “Diag” November 11 at the Ecology Center.

Commissioner Hong announced that A3C Architects holding an Open House November 19 from 5-7:30 PM for their LEED Gold building along with demonstrations of solar energy. Mayor and DDA people will be speaking. Speakers start at 6 PM.

COMMUNITY UPDATES ON ENERGY

Clean Energy Coalition - Solar Plan, XSeed Energy, and Clean Cities Grant

Lisa Dugdale and Greg Vendena of the Clean Energy Coalition presented on the Ann Arbor Solar Plan, XSeed Energy, and a new Clean Cities Grant:

Lisa Dugdale: Exciting couple of months. Clean Cities project update- DOE award for \$31 million; 4-year project launching next month. Will cover incremental costs to allow investment in vehicles for fleets that would otherwise not be purchased (as well as some educational work). Will work with 13 current fleet partners. Lucky to get entire amount of grant applied for.

Worked with Ann Arbor and Tom Gibbons and will do a cost match of \$540,000 for purchasing vehicles for the City. Working with AATA to purchase 10 or so hybrid-electric buses. UM and DTE other major partners.

Greg Vendena: Adapting to net metering and DTE's Solar Currents are latest changes we are adapting to. We participate on a monthly call with DOE about Solar Cities and it appears we will be among the first to release a comprehensive Solar Plan. We started identifying best practices in other states, cities, and the world. We identified resources we had, made local evaluation to eventually make recommendations- the heart of the Plan. We are trying to leave open multiple options. Back in February we talked about market research and results. We started with interviews, focus groups, then literature reviews. Solar Plan is about 80-percent complete. Then there will be a design phase at which point the Energy Office will give initial review. Once that is complete we will give a draft for your review. Andrew Brix should have the draft around the end of the year.

Key resources in the meantime: Taking the Red Tape Out of Green Power, and Solar Powering Your Community (DOE document renewed every year). This is the means solar cities share results.

Lisa Dugdale: What is "Community Supported Energy"? While researching for Solar Plan we found four recurring barriers: 1) high renter population, 2) site issues: lack of access, historic neighborhood, restricted covenants, neighbor disputes, etc., 3) high upfront costs, 4) lack of solar knowledge. XSeed Energy (Ann Arbor's community solar

project) will be a community supported energy installation, that will depend on community and grant donations. Have developed a marketing plan, despite not receiving second Solar City grant. Launching at the end of the week. Finished the business plan, so next step is raising money. Do not yet have location. People (during input phase) are interested in a project they could see and touch. May or June 2010 should be first installation. REC and/or Solar Currents should mean a another form of income for the project, to help seed additional projects. www.Xseedenergy.org will be website.

Greg Vendena: Yet another grant from the Michigan Public Services Commission, awarded \$8.5 million in total grants, we will manage \$4.4 million to work with other cities across Michigan.

Lisa Dugdale: Awarded the Deal of the Year (Technology Area) from A2 Business Review. Will add about 4 staff to CEC. Energy Outlet is CEC energy store, good for low energy gifts for family and friends. Any questions?

Comm. Wadland: What is your idea for the demonstration site: size, kind of installation?

Lisa Dugdale: People wanted to be able to tell where the energy was going and that it is visible. Covered parking, and related examples that people could gather in or near. Initial demonstration will be small, building bigger later in the project. If you have ideas please pass them along.

Comm. Hieftje: Appreciate you bringing all this money into the community. As you move forward do you anticipate net metering?

Lisa Dugdale: Yes we do.

Comm. Hieftje: That is a very important part of the demonstration so that everyone will see that it will actually work in Michigan. It has been enabled in Michigan, but do you know of anyone who is doing it at this time?

Lisa Dugdale: Not exactly, in that there was no other we found to be a non-profit run- so we are excited to be able to launch this.

Comm. Hieftje: And this will be an on-the-grid project?

Lisa Dugdale: Yes.

Comm. Hieftje: Excellent.

Comm. Appleyard: Great presentation – hoping to see more detail on the Solar Plan, but I guess we will wait and see whether or not we get a

Christmas gift on this.

Lisa Dugdale: Greg will be providing an outline of the Plan for you.

State Legislative Update

There was no state legislative update.

ENERGY CONSERVATION ISSUES AND ACTIVITIES

Commercial and Residential Audits

Comm. Bing mentioned that Michigan Saves program (revolving loan fund) to provide financing for energy improvements, is moving into final stakeholder meeting next week. Financing is topic. Their timeline is to have something on the ground before the end of the year.

Residential update locally- Recycle Ann Arbor has conducted 80 audits, and we are moving into the last 20 audits. Will be revisiting homes we have been in, and talking to residents to see what recommendations they have implemented. Having one measure implemented was required to receive these audits. Will consolidate information and share with Energy Commission and Energy Office – early next year.

Building Codes, Guidelines, and Recommendations

Comm. Appleyard: Maybe we should talk about the draft Idling Ordinance that has been circulated. Does everybody think we should recommend? Any comments as far as revisions? I thought it lacked a little punch in terms of short-term loading zones. One would think that no idling in 15-minute zones is sound. Imposing this limitation would give you an easy means of ticketing people. I have found people spending 30 minutes to an hour in these loading zones with their engines running.

Comm. Miller: I have never been a truck driver and don't understand why anyone would not turn off their engines in the first place.

Comm. Appleyard: Perhaps they like to climb into a warm or cool cab; maybe they don't care. Most likely do not buy their own fuel- so they have no incentive.

Comm. Miller: I don't know. If the employer is paying for the fuel for the truck, would not think the owner cares if the vehicle is warm or cold, so think there would be a bigger incentive to be more efficient. This all sounds nice on paper, but curious of the cost-benefit. Has the Environmental Commission done a study of why people would waste dollars burning up fuel, I would not think any sane person would leave

their car going unless it is a substantial amount of fuel, and if it is not then why are we bothering?

Comm. Hieftje: Back when I was on City Council I proposed a ban on mercury thermometers. Staff did a very thorough research job, talking to thermometer makers and finding alternatives without mercury. Had a program to exchange old thermometers with new ones, with a grant, and it worked very well. We also enacted a ban on phosphorous fertilizer, and similarly had stocks replaced. I would think that if we proceed with this, which I do support, that we would ask truck drivers why they idle and get an answer.

Comm. Appleyard: I might add that I have quite often seen people come up to a convenient store or fill up their tank with the engine running; I think it is a lack of consciousness of energy conservation as much as anything.

Comm. Bing: I think you can take that lack of awareness over into the building sector. Why do people leave their lights on when not needed? There is no good answer, just not a level of awareness. Supporting something like this is a no brainer for me.

Comm. Wadland: I have noticed UPS trucks turning their engines off when they deliver, along with other delivery companies. In the past, diesel engines had to be left running in the cold weather, not any more. There was information in the packet I saw about other cities who are implementing this- I don't see any reason not to move ahead with it.

Comm. Appleyard: Would anyone like to make a motion to recommend this?

Comm. Wadland: I would move that we recommend this.

Comm. Bing: Seconded.

Comm. Appleyard: Any comments or additional questions before we vote?

Comm. Hieftje: You saw what you mentioned as a weak point in the document and I wonder if it would be wise of us to have it on the floor and bring it back next month, given that we may want to make some amendments, unless you are ready to make amendments tonight. This would be the appropriate time to amend the document or add to it. We can certainly pass an amended version here, it doesn't have to be what was given to us.

Comm. Appleyard: O.K.

Comm. Delaney: What's the timeframe we are looking at for City Council?

Comm. Miller: I certainly don't see any hurry. I understand why mercury and phosphates are problems. But I have yet to understand why people leave their trucks idling when they might be turning them off. I think it is worth some more discussion. If we are making an ordinance it should do all that we want it to do.

Comm. Appleyard: Given that, I suggest that we table this and put it on the agenda for next month, so we can do more research and make sure the recommendations we make are not harmful to anyone.

Comm. Wadland: I will withdraw the motion.

Comm. Hieftje: Allow me to suggest – since it has been moved and seconded- that rather than table it you move to postpone it. Tabling would mean that it was laid on the table and would require a motion to bring it back off the table. If you simply move to postpone it for further discussion it will be on the agenda and will be a moveable item at our next meeting.

Comm. Appleyard: Sounds fine to me.

Comm. Hieftje: You will need a second for the postponement

Comm. Wadland: Second.

The postponement was approved unanimously on a voice vote.

RENEWABLE ENERGY ISSUES AND ACTIVITIES

Geothermal Utility Discussion

Comm. Appleyard: First on the list we have the geothermal utility discussion. We had a great presentation last month about this proposal – a geothermal heating/cooling district for the City.

Comm. Delaney: I was not here last month. I didn't understand the structure of this arrangement. Would the City require people in district or would it be voluntary? It looked like this is a separate entity not subject to the parent company, so if something were to happen who was stuck with the bill, the customer or the City?

Jim Hardin: There is more than one way to handle this. Our hope was that we would get a letter of intent to move forward with a plan that works for the city. In the City of Wyandotte we are building a geothermal-utility system as a privately owned entity, but that is a wholesale supplier to the utility, who then retails the service to users that decide they want to be on the system and pay their bill every month. It is not mandatory there or

anywhere else. In Wyandotte they are paying for the upgrades as well. A homeowner user might call his service tech because his furnace goes out. Tech arrives saying he will need \$2500 to replace the furnace. Or you can just set up the geo-utility system for the city and they will replace the unit for you and you will pay a utility bill that is less than the gas and electric bill you paid before. You avoid the repair cost and you get to file the tax credit – you'll pay the value in your utility bill every month. You would be able to file a tax credit next year for thirty percent of the value from the Federal Government. Similar programs for commercial buildings. In those cases we try to pass through those tax benefits so they can take advantage of it. And that is the reason I chose the public/private relationship to do that. So the geothermal utility system, in their case, phase one will be \$20 million, and estimated cost before it is over is \$200 million- that is of course financed by the private utility company; a tax paying entity within the city so their property taxes are assessed against it, based on infrastructure. If the city can raise the funds to put it in on their own, they may want to bill the system and own it themselves, and we would be glad to support you with engineering support, installation back-up, and build a system on behalf of the City that you could operate from top to bottom. You lose a lot of the tax benefits that way and you lose a lot of the public incentives that way, and it becomes necessary for the City to finding financing in these tough times. So that is two ways to go. A third way to avoid making installations within homes and commercial buildings is supply the utility and then a homeowner goes out for a home-improvement loan for the installation, and that works fine too.

Comm. Delaney: Follow-up, is there kind of a minimum size that makes this economically viable? What I have heard is that it works really well for new homes, retrofits not necessarily for a single site. It sounds like this is a whole district so it sounds like there will be some economies of scale or minimum size?

Jim Hardin: Actually it works very well for retrofits especially with energy costs going up since those old numbers. Believe it or not the cost of geothermal has gone down. Cost of a community system is much lower than an individual home. As far as office buildings go we have two at Wayne State, a 46-story tower in Chicago, a 6-story condo in downtown Detroit. The City of Sandusky is planning to use geothermal to draw jobs in from the Wyoming coal fields- in this case a little over 100 jobs. We are moving the non-renewable jobs from Wyoming and Texas oil fields to local construction and long-term maintenance jobs, as well as operational jobs for the geothermal system in the local community. As far as size and scale-ability there is really no limit. One of the advantages to having a central, city-owned system is now if you have a tall land-locked building, all you need is horizontal space to run the system to those buildings.

Mike Delaney: One system I think of that didn't work so well was Detroit

Thermal- a steam system, and they have been losing customers, while price for the remaining customers keeps going up. Would that be a concern for the City of Ann Arbor?

Jim Hardin: Answer is no, because Detroit Thermal dealt with very high fuel costs. With geothermal there are no fuel costs. Once you amortize your fixed infrastructure, costs actually have gone down. Little inflation because there are no fuel costs. Detroit Thermal used to use waste heat from a plant that does not exist anymore. Now they get it largely from the incinerator and natural gas.

Comm. Delaney: One last question: the installation process- how does that work in Ann Arbor- are we digging up the streets to do this? Do we have to plan around utilities? Is that a big part of the capital costs? What kind of easements would you require from the City?

Jim Hardin: Requires a good deal of engineering and assessing in each area, and we need space for horizontal pipe-work. We are doing work at Lawrence Tech now, doing horizontal boring in spaces 200 feet long. We are not talking about 36 inch main pipes. Could take advantage of parallel piping if we had to.

Jim Moran: In the presentation last month A3C had suggested a number of areas where there might be used for this purpose. Hardin is innovative in getting from one area to another.

Comm. Appleyard: I guess that brings up one of the questions from last time- what portion of the City can we provide for given the limited space downtown? Would you entertain going deeper with bores? You talked about 350 foot deep bores. In other areas of the country they are doing 1,500 feet, which would reduce the amount of space you would need. In Philadelphia, they are going under sidewalks.

Jim Hardin: It would be much the same here. I've gone as far as 1,000 feet. Generally speaking because of regulatory issues in Michigan it is harder, with Michigan becoming one of the toughest states from a regulatory stand-point. I suspect that by Spring we will be going 800 feet with an incredibly efficient conductor that should get double the amount of tonnage than anyone else is getting in that same footage. Right now we are going 450 feet in Las Vegas and New York for reasons of being land-locked. New material that goes 800-900 feet available next Spring. If we could just go over a map of Ann Arbor, the entire city can be covered, ultimately. In Oklahoma we have run pipes a mile and a quarter between the source and the field.

Comm. Appleyard: Any other questions?

Comm. Miller: I am not exactly sure what you are after here. Provided the city would grant you easements to use city property, what more would

you need from the city to do this? As I understand it your revenue stream would come off of rents from the folks you are providing the water to. What prevents you from opening up geothermal, LLC signing up customers, and running your business?

Jim Hardin: In fact we can do that. One of the major trumps is bringing low cost funding to the projects. If we partner with the city, there are several advantages that our company doesn't have: a) if a customer does not pay a utility bill, the City has certain lien rights – financial institutions like this; b) if the City is buying those services on a wholesale basis and distributing on a retail basis, we get low-income or tax-free financing which can be passed through, keeping costs down. Financing now is tough for a private enterprise. It makes it easier. I am not saying we couldn't move ahead that way, but costs will definitely be higher to end-users. We still need a strong alliance with the city for easement access. Geothermal has one major advantage over other renewable energy sources, that is it has a very high and fast return on investment.

Comm. Miller: Basically, you are looking for the City's funding and enforcement capabilities.

Jim Hardin: Mainly enforcement capabilities.

Comm. Miller: But if you opened this up as a private business you would pay taxes just like any other business in the city.

Jim Hardin: That's correct. If done through the City, wholesale, privately-owned portion is still subject to taxes, etc.

Jim Moran: One of the other answers to your questions is that we are seeking a letter of intent to begin planning such an endeavor. By going one building at a time you would lose the ability to scope out a wider district, shown in a well-developed plan, to figure out the best areas with input from members of the citizenry.

Comm. Miller: Isn't that just a function of how much risk you are willing to take up front? If you have investors willing to develop a plan, they can do that right now.

Jim Hardin: We can, but like he mentioned, if you are looking at the cost structure it will be higher, that inhibits your advancing. Capital investments you make in support of the building ends up being a second lien, whereas if it is supplied as utility as a service to the building, there are primary lien rights exist in a central utility that do not exist as a building by building installation. We are booming with individual buildings right now, but looking to work with cities to broadly utilize renewable energy at a rapid rate and at far less expense to the cities and residents. It's all about costs.

Comm. Miller: Sounds like you have a nice business.

Comm. Appleyard: I am going to ask one more question: part of the advantage of geothermal has to do with existing electric rates that are considerably lower. I am a little concerned about future rate structure changes - suddenly things aren't as wonderful. Have there been any changes away from lower rates for geothermal in other parts of the country?

Jim Hardin: If you go down to Indianapolis you will notice a large gas-fired utility plant owned by Detroit-Edison. It's purpose is to kick on in summer to supply the short-fall in Detroit for that time of year. A lot of money they spend, has to be refurbished to kick it on each year, and you pay dearly for it in the electric costs. The reason DTE gives lower rates to geothermal is that summer demand goes down by over half . In the winter time, when they have lots of grid online- they'd like to sell you power then and you are not buying that much: gee we are going on geo-units when you have very low winter rates and they are selling more electricity in the winter time. Their total electric sales on an annual basis go down- that did not used to be true. Utilities call this good load-factoring: bring down the summer load, bring up the winter load and maximize the use of our infrastructure – costs will always be lower with geothermal.

Comm. Wadland: When you install a well-field in a park- what is the effect?

Jim Hardin: We have put them under green/commons areas at Lawrence Tech. Wouldn't know it is there. We have learned how to work around trees. Shouldn't notice a change once we are done, other than we have planted nice new grass seed.

Comm. Wadland: What about a natural area, a place of trails – would that be damaged quite a bit?

Jim Hardin: Not dramatically. Bores are about 20-25 feet apart, and each one is about a 5 foot diameter bore, and then we have to trench or pipe between them, so there is that damage, but it is all generally restorable damage.

Comm. Wadland: What is the effect on the water table or other wells.

Jim Hardin: We have tried to be good citizens of the EPA and have been commended for that in the past. No impact to local water table because it is a closed system.

Comm. Wadland: Once the loop is filled you don't draw more water?

Jim Hardin: Only with leaks or accidents, which have happened.

Jim Moran: Some of the projects are taking advantage of this, such as soil removal in brownfield remediation while digging. In Wyandotte we are doing old parking lots that need resurfacing, and they will get a green parking lot out of it.

Comm. Appleyard: I think I am ready to pass a resolution recommending that Council sign this letter of intent, after proper legal counsel.

Comm. Wadland: I'll second that.

Comm. Miller: I want to think about it some more. I haven't studied that letter of intent and I want to make sure that we know what we are committing the city to and recommending. The geothermal supports itself, so what they are looking for is community support, and it may be something we should do; maybe use the City's bonding authority and enforcement powers to help their financiers be secure in their investment. These may be all good things, before we jump into suggesting committing to something. I don't think another month will impact whether or not this is a good idea. I think we should be cautious but I think this has some merit. Or maybe there is another way to help them. I don't know what kind of a tangle it is granting public easements. Think of DTE. Essentially we are doing the same thing, granting them access to easements to use rights-of-way to run their wires; also MichCon (for gas), and cable TV. These are things that deserve serious consideration and thought.

Comm. Delaney: I would echo that. I think the technology is something to further explore, but I am still trying to wrap my head around the structure of this and what signing a letter of intent gets the city into. What comes to my head is sole-sourcing and reducing our competitive ability to bid something like this out; second is that this becomes, effectively, a non-regulated utility- how does this effect residents? Thirdly, in leveraging financing and enforcement capabilities are we socializing the risk of this project while privatizing the gains. Some of this would get explored as part of the legal review but I am not sure if all of it will.

Comm. Appleyard: I guess I am a little concerned that we come back next month and we still have the same answers. Do you have an avenue for getting some these questions answered?

Comm. Delaney: One thing would be to have a meeting with the city's legal council on this and what it commits us to.

Comm. Miller: I don't have an answer. I am a citizen sitting on an advisory committee. The answers to these questions need to come from the advocate and from careful study. After that, once we have information to act on...the proposal here, prima facia, is reasonable as a community benefit, i.e., we are going to trade community assets for some benefit

down the road. We have seen a lot of goofy ideas not worth the city attorney's time. This, in all likelihood, does not fall in that category. That does not say we should not be prudent about pursuing it.

Comm. Appleyard: I guess I would argue that we are here to advise the council on matters of energy and not legal matters. Unless you are going to come up with more information about the energy attributes and merits that we can go ahead and vote for this tonight.

Comm. Miller: I am on the council as a citizen and my opinions are that of a citizen and they may cover energy areas, or legal things. If you have been involved in the energy area, as you have for a long time, you know it is virtually impossible to not account for the legal and social ramifications of what you are doing. I don't see anything outside our purview that we have discussed tonight. I think Mr. Hardin is a sincere and very good presenter and he deserves a hearing, but I don't think the city needs to be in a rush.

Comm. Bing: Do we need to keep it here at the Energy Commission, if we agree there is some merit to this idea. Can we say that signing this letter of intent could be a good option for the City, however, many questions need to be addressed before that gets signed. But from the energy perspective it seems to have some merit.

Comm. Hieftje: Perhaps we could resolve this with a slightly changed resolution that would read that the Energy Commission recommends that the City further explore a geothermal utility and offers its assistance in this exploration. And if the Energy Commission were to take that step we would move this up another notch and get this in front of city attorneys, the chief financial officer and some of his staff, and we could also ask Hardin to provide us with contracts they might have with other entities. Certainly having a template and something to research what Hardin has done with other communities would move us in a good direction in getting to a point where we could later make a decision about this.

Comm. Hong: I concur with that assessment. I don't want this commission to be the bottleneck.

Comm. Miller: Does the City attorney need a resolution from a group like this to do that sort of evaluation? I presume there is nothing preventing Mr. Hardin from going directly to the City and the departments. Is our resolution or endorsement useful here and how is it useful?

Comm. Hieftje: The City attorney does not need a resolution from this group to move forward, but it would certainly be helpful in getting it on the table. It would be helpful if the Energy Commission gives its support in this process, which is what I see it as, a process, as we move forward analyzing this. I would be happy to put this before the City attorneys and ask them to begin looking at this. They would need the materials I

mentioned- I'm sure they would like to have sample contracts and see what has been done in other communities. We can also begin to answer the questions having to do with sole-sourcing and some of those issues. That is why I suggest we not mention a particular entity, other than recommending that the City further explore a geothermal utility. I don't see that as absolutely necessary but it would be helpful moving this ball down the road.

Comm. Miller: Would you take it as friendly for the resolution to explore "community" geothermal?

Comm. Hieftje: Certainly.

Comm. Miller: I could support that.

Resolution to Explore Community Geothermal

Acting Chair Appleyard declared the motion passed on a voice vote.

Solar America Cities Update

This agenda topic was covered under the Clean Energy Coalition presentation.

5000 Solar Roofs Project Update

Acting Chair Appleyard reminded the commission and audience members about www.1bog.org. If you are interest in putting PV on your home. This non-profit helps with group buying.

Solar Access Zoning

There was no update on this item.

SUBCOMMITTEE UPDATES

Energy Plan

There was no update on this item.

Outreach Plan

There was no update on this item.

Funding for Energy Conservation and Renewable Energy

Comm. Bing: Participated on a conference call with Clean Energy Works, Portland. They have put together a local energy conservation financing mechanism. Something to discuss more in depth in our subcommittee meetings and potentially engage the Ann Arbor financing team with these Portland folks, since they have a very similar system to what we are proposing.

UNFINISHED BUSINESS

There was no unfinished business.

NEW BUSINESS

Comm. Hieftje: I would like to ask staff to provide discussion notes from the Environmental Commission regarding refrigerator truck idling, they may have compiled some information on the subject.

PUBLIC INPUT

There was no public input.

ITEMS FOR NEXT AGENDA

There were no new items for the next agenda.

ADJOURN

The meeting was adjourned at 7:05 pm.

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