

Acton Green Advisory Board  
Minutes of Meeting  
April 1, 2009  
RJ Grey Jr. High Conference Room

Members present: Kate Crosby (Co-chair), Mary Smith, Eric Hudson, Carol Holley (clerk), Chris Schaffner (Co-chair), Tom Michelman. Guest: JD Head

Ms Crosby moved to accept the minutes of the previous meeting, Mr. Schaffner seconded, and all voted in favor. Mr. Schaffner would like this process to be less formal.

Ms Smith related her experience and background. She has worked in the energy business for some time and is now with the Energy Supply Management Administration at Harvard U. She discussed the scope and complexity of her work. Harvard has a goal of 30% reduction by 2016. Ms Smith is also involved with regulatory work because Harvard's energy plants are an emitting source. Electricity is responsible for 52% of Harvard's greenhouse gas emissions. She is involved in reducing the footprint and consumption. She works with Independent System Operators (ISO) New England. Ms Smith noted that in terms of size, the University would be the 5<sup>th</sup> largest municipal utility in the state. She noted that NStar doesn't give the service and information she wants, but Interval Data Systems does a good job of data production, including greenhouse gas generation by meter. She noted that the best thing to do if you are a generator is to use the power yourself and sell back to the grid when it's economically advantageous.

Mr. Head noted that the AB main campus power demand is about a megawatt. There is a primary feed off Hayward Rd.- 3-phase, 480 – and the school owns transformers, switches, etc. There are 2 transformers at the High School, 1 at the Jr. High, one at the Parker Damon building and one at the athletic fields.

Regarding transportation costs, school choice is a major wrinkle. The districts run their own buses, which are lease to purchase. 27 drivers are employed. Three buses are owned outright and one wheelchair bus. The current lease expires in two years, and changes can be made to mitigate carbon footprint then.. Efficiency of buses, and pollution controls, are up to state code.

Mr. Hudson discussed what the group would like to accomplish – help the school save money and reduce its carbon footprint. He noted that the town vehicles use an 80-20 mix with biodiesel. Mr. Head described the fuel purchasing and tank locations for the buses, noting that biodiesel generates filter maintenance issues because it congeals. Mr. Head noted that the school buses have Cummings diesel engines. Ms Crosby noted that science teachers are looking into funding for a biodiesel project, and the Envirothon team is working on biodiesel production.

Mr. Schaffner, reviewing the spreadsheets on energy consumption provided by Mr. Head, noted there's lots of good information and he is trying to understand what can and can't measure and how things can be broken down. Mr. Head noted that more detailed

numbers have very recently become available, and passed out some paperwork including a January 2009 Energy and Utility Report. The schools have contracted with Enernoc to help manage energy. Mr. Head noted that, previously energy usage on the central campus could only be estimated per building, using the square footage of each. Not having good data prevented fundraising for a retrofit.

Mr. Schaffner noted that one of the concerns about facilities retrofits has been the open bidding law, but believed that new regulations regarding energy usage has made that easier; Mr. Head noted that you just have to follow the process.

Mr. Head related how, 4 years ago, through NStar, he talked to Rise Engineering and they came through and retrofitted the remote elementary schools from T12 to T8 fixtures, which reduced energy demand. The project will pay off this year – so the payoff time was 4 years.

Ms Smith thought Enernoc was a good solution for submetering. Mr. Head stated that the main campus could go from T8 down to T5 fixtures, yielding a substantial

Mr. Schaffner said he would like to be able to see the detailed numbers to be able to do some basic benchmarking for each. Douglas and Gates together appear to use one third the energy of the Parker Damon building (Parker Damon is air conditioned). Mr. Head noted that there's a great opportunity at the Parker Damon building. Updating the Parker Damon building management system will help a lot. You only need to change controls – new computer and software. Trane equipment could retrofit the HVAC system controls and it would make a big difference.

Ms Smith asked Mr. Head if he had interval data from NStar, like every 15 minutes? She suggested that he ask for it – they will do it once a year for free. This will show demand over the course of a day. It would show you inconsistencies. You will be able to identify from submetering what some of the issues are – things like HVAC load; very helpful information.

Mr. Head noted that the current Enernoc data only goes back a few weeks. Mr. Michelman suggested that, going forward, you might not need to get NStar data; Ms Smith suggested doing it because it's good data and noted that you get it free once a year. It was discovered that Harvard University and AB schools have the same NStar rep, who was noted to be a good guy.

Ms Smith discussed a funding opportunity but the paperwork has to be in by June. They will pay 60% of projects. Mr. Michelman felt ESCO should help with that. Mr. Head noted that, for him, the problem is coming up with the other 40%.

Ms Smith related that generally, when you are working with a performance contractor, they like to look at projects in the \$500,000 range. Mr. Head felt that a main campus project could approach that. Ms Smith thought this would be a perfect time to look into redoing the building lighting.

Mr. Head would like to get some public credit for what the schools have been doing but they couldn't jump into certain programs because they didn't have a benchmark to go on. New boilers at the outlying schools were good projects – he has still been having trouble getting the rebate money from National Grid on that.

Ms Crosby asked if there were things people could add. Mr. Head told the group not to hesitate to reach out, but he doesn't know what stimulus dollars he will get yet. A lot of the stimulus money information is overwhelming. He did send out projects to the Lt. Governor's office from stimulus funding.

Mr. Head noted that the junior high has building envelope issues, and that's a costly issue to fix. The cost per square foot in the high school is fairly low. The junior high school is the worst. He noted that, in the last 10 years, Acton has done 99 million dollars of school construction on the central campus. The high school was recommissioned.

Mr. Schaffner noted that what really happens when people install something is that one group of people put things on paper, others put them in the building and a third group runs the building, and the groups never talk to each other. Also, it's a customized set of components with nobody to perform total oversight. Recommissioning a building can debug the systems.

Mr. Head would like to install lighting that is light sensitive. Lots of cool technology is out there, but that costs money. He noted that you also have to consider who is running the physical plant; the schools just replaced a retiring carpenter with an HVAC mechanic because of the maintenance requirements. He noted that the schools have one electrician, who can spend most of his time on lighting maintenance, and one plumber, who spends a lot of his time fixing fountains.

Mr. Schaffner noted that there is something to be said for simplicity – we have forgotten how to build.

Mr. Hudson praised Mr. Head for his practicality and “green-ness”.

Mr. Head noted that the schools have a very demanding customer base – not just in terms of test scores, but property values are also tied to the schools. He noted Acton's rank in per pupil expenditure compared to its rank in academic achievement. Something is working. There is a lot of pressure to fix things now and people sometimes forget about the long view.

Ms Smith noted that one of the things the GAB can help with is getting buy-in from the public; she thought many more people than used to think about energy now, although not everybody does. Mr. Head replied that people think about what they see. The outside lights are less than 2% of electricity costs. They run on high voltage and are more efficient than any except LEDs, which are very expensive.

At 9:05, Ms Smith was obliged to leave, noting that she is “very excited about this stuff”. She and Mr. Head will talk outside the GAB meeting format.

The discussion returned to outdoor lighting. Mr. Head has had discussions with OLEC. Ms. Crosby and others related the background of the outdoor lighting issues. It costs between \$17,000 and \$20,000/year to run outside lights. To change how they are controlled – they run from dusk to dawn – would be costly. Is it worth the investment? Mr. Head didn’t think so. Mr. Kosicki (OLEC) would like to see .5 foot candles for the parking lot, but this is an educational, not a commercial parking facility. If we can save \$200/year by turning off the lights, but it results in assaults or vandalism, it doesn’t make sense.

Mr. Schaffner felt that this was a big design issue. OLEC is also concerned about light pollution. Business standards usually have a range of levels. Mr. Head noted that the campus lights average 2 foot candles.

Mr. Schaffner asked what the next step was with Mr. Head, given that there’s two weeks of detailed data. He would like to look at more data when it comes. There are probably simple things like air conditioning, operating hours, etc. The GAB will develop a wish list.

Mr. Head noted that some school roofs need replacing and wished photovoltaics were more affordable.

Mr. Head noted that solid waste has an energy cost. At Douglas school, Styrofoam trays are 11 cents per tray less than compostables – it would cost about \$60,000/year to switch. He related approximate areas of buildings on the central campus – high school 398,000 sq. ft., Parker Damon 153,000, junior high 200,000. The other elementaries are in the 60,000 square foot range.

Mr. Head invited Mr. Schaffner on an infrastructure tour to assess building mechanicals.

Ms Crosby offered labor and leveraging efforts by the GAB. Mr. Schaffner noted we can help provide political support. Ms Crosby noted we can also lay groundwork.

Mr. Head noted that 70% of his day is dealing with personnel issues.

Regarding scheduling the meeting with Dean Charter, Mr. Schaffner stated that Mr. Charter prefers an evening meeting. April 29 was suggested.

Mr. Schaffner suggested that the group have Meg Luscardi come speak – she has a standard presentation that he will email out to the group. She can come and explain the Green Communities Program. New things are happening for energy efficiency and ESCO availability.

Ms Crosby asked about the next meeting. Mr. Michelman felt we should meet with Ms Luscardi as soon as possible, even before meeting with Mr. Charter.

Meeting adjourned 9:25 a.m.

Respectfully submitted,

Carol Holley, Clerk