Planning Commission Minutes
Community Chambers
Workshop Meeting
Wednesday, March 10, 2010, 7:00 p.m.

Commissioners Present:	Mark Braly (Chairperson), Ananya Choudhuri (Alternate), Lucas Frerichs, Rob Hofmann, Mike Levy (Vice-Chairperson), Terry Whittier
NRC members present:	Dean Newberry, Doug Fetterly, Charles Ehrlich, Adrienne Kandel, Herman Boschken
Commissioners Absent:	Greg Clumpner, Kris Kordana
Staff Present:	Mike Webb, Principal Planner; Mitch Sears, Sustainability Coordinator; Greg Mahoney, Assistant Chief Building Official; Lynanne Mehlhaff, Planning Technician

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1. Call to Order

Chairperson Braly called the meeting to order at 7:05 p.m.

2. Approval of Agenda

The agenda was approved by consensus.

3. Staff and Commissioner Comments (No action).

Lynanne Mehlhaff, Planning Technician, reminded Commissioners to turn in their Form 700 to the City Clerk by April 1, 2010.

4. Public Communications

There were no public communications.

5. Consent Items

A. Planning Commission Minutes of January 6, 2010

The minutes were postponed to the next meeting.

6. Business Items

A. Planning Commission Discussion: Greening Davis's Built Environment Workshop

Please note: Members of the City Natural Resources Commission may also participate in this discussion.

The City of Davis Planning Commission in collaboration with the Natural Resources Commission, will conduct a public workshop. A panel of experts will help the commissions consider measures which would reduce the carbon footprint of Davis homes, apartments, and businesses. The keynote speaker will be Karen Douglas, Chair of the California Energy Commission accompanied by Anthony Eggert, who was recently appointed to the commission. Other speakers will be Marshall Hunt, Michael Corbett, Kevin Wolf, Mark Berman and Greg Mahoney, Assistant Chief Building Official.

Karen Douglas, Chair of the California Energy Commission (CEC), said they made headlines last year with the nation's first energy efficiency standards for televisions, which come into effect in 2011. She described the purview of the CEC statewide with planning and policy work, forecasting, attribution of energy efficiency programs, funding research, implementing some of the energy provisions of the Federal Stimulus Act and the important role in achieving California's greenhouse gas goals. The largest program they have implemented through stimulus is retrofit programs.

The issues with retrofit products tend to be market barriers with addressing retrofitting existing buildings. The Commission put aside $110 million dollars in state energy program money from the Federal Stimulus money and had a competitive solicitation where they asked applicants of how they would overcome these market barriers such as where is the trained workforce to ramp up a program of this scale, what are the standards or qualifications of what meets a retrofit, how do you get education out there and up front financing, what about rentals and multi-family. The Commission is excited about the results of the energy efficiency funding they are putting out to these regional partnerships that have fought and overcome these market barriers. They have also implemented a new state law AB758 which gives the CEC new authority both in regulation and setting standards for comprehensive approaches to retrofit.

Anthony Eggert, member of the California Energy Commission and Chair of the Efficiency Committee and member of the Transportation Committee, said under AB32, there are important milestones, the 2020 target for the state to return to 1990 level of emissions which is a 30% or so reduction from business as usual (a 15% absolute reduction) which is a stepping stone to the real goal which is our contribution to a stabilized climate of an 80% reduction in emissions below 1990 levels by 2050. That is a challenge, currently 14 tons of emissions per person would need to be reduced to 10 tons of emissions per person by 2020. To get to the 2050 goal, we would need to reduce below 2 metric tons per person. This would take a complete transformation of our energy system; effectively de-carbonizing the electricity system and the transportation system. The only way to do this would be

through a substantial improvement and efficiency of how we use energy. As we have learned, the amount of land we have available for solar, wind and renewables is not infinite and it is more expensive. So, anything we can do to reduce demand will pay dividends all the way up the supply chain.

The generation of greenhouse gases comes from the carbon intensity of primary energy such as coal, gas, oil or renewables and the efficiency with which it is converted into a useful product; and then you have the demand for that product or service. In terms of the states contribution, about 40% is transportation, 22% is electricity, and 9% comes directly from residential and commercial buildings. Two-thirds of our total state footprint is what we characterize as the built environment. This is what local Planning officials have control over.

There are now 13 stimulus programs some statewide and some regional that establish and lay the groundwork for a successful retrofit program. In terms of retrofits, our priority in resources is first efficiency which is the most cost effective thing to do – efficiency and demand reduction; second is renewables and distributive generation; third is fossil generation. In terms of houses, it is very important to look at it as a "system" and not a collection of widgets. As we design these programs, we look at how all the pieces of a house work together including the plug load, the building envelope which includes the insulation, the equipment necessary to cool and heat and an airtight structure with no leaks, proper insulation in attics, ceiling and walls for an appropriate thermal boundary. Once this is done; then you can size your HVAC system or upgrade to a proper system; and then look at lighting and appliances and finally renewable generation. By thinking of all the ways you can reduce your demand, such that when you do eventually move to the final phase which would be putting on rooftop PV or solar thermal for water and heat, you are sizing it appropriately for a much reduced demand which saves everybody a lot of money.

The CEC is looking to support the development of these property assessment community energy districts of which Davis is a partner to this Sacramento-Yolo District which is a tool to help homeowners with the upfront capital that is necessary to make these investments. It is also important as a component of that to provide where possible these audits such as the "Home Energy Rating System" which provides guidance on a whole house audit to improve the efficiency of a home. One other piece to this is making sure that the proper workforce is trained to do this properly and that cities are a party to this working properly. There needs to be a quality control program as part of the retrofit program. There is a potential national program "Home Star" and "Building Star" being discussed in Congress for retrofit activity that could be coming to the state later this year. This combined with some of the investor-owned utility programs and state programs could mean that homeowners could have as much as a half to three-quarters of the retrofit costs paid for out of these programs.
The key component is outreach and getting homeowners excited about the opportunity to save money through cost effective retrofit. Creative programs like the "Low Carbon Diet Program" here in Davis could result in the adoption of some these technologies and practices.

The state adopted SB375 which gives the California Resources Board the authority to establish green house gas targets for regions and then puts in place a process by which those regions establish long range development plans for the region that meets their target. The incentives provided by these regions are for the developers and the developers who take advantage of the incentives to meet the target will get CEQA incentives. This is a first step towards a "paradigm shift" as far as planning for the state. Local governments have a stronger role to play in making sure that these plans are more successfully executed.

Michael Corbett, former Mayor and builder of Village Homes, gave a historical perspective on how Davis became an environmental leader in the country and world during a ten year period. Some of his suggestions from his new book were: require electric photovoltaic generation solar water heating on all new buildings where sunlight was adequate; use only electric or bio-methane energy sources; increase lane size for bicycles/small electric vehicles on selected streets, reducing lane size for autos; complete the off-street bicycle network; convert under utilized shopping centers to mixed use village centers; new development should produce mixed use pedestrian oriented villages or be infill that contributes to a pedestrian orientation; preserve peripheral ag lands for small organic farm operations; more community involvement with workshops to promote retrofits; and the City of Davis should embark on a municipal photovoltaic electric generation network on city properties.

Mark Berman, a principal of the Davis Energy Group, gave a slide presentation and discussed energy impacts from a house as a system. He acknowledged Davis Energy Group and the Groupey Company and "Green Home Solutions" which is a retrofit installer based out of Stockton, CA. He said there were four major categories to look at in your home: building envelope so there are no leaks to the outdoors; insulation – a thermal barrier; the ducts that provide heat and cooling; and HVAC. Improving the thermal barrier reduces heating and cooling loads and can handle hot and cold spots. The average home duct system in California leaks 30%. A 30% duct leak could mean a 50% increase in heating and cooling costs. Ducts should be replaced or sealed. After improving the building envelope, you can downsize the heating and cooling systems. Downsizing is a permanent reduction in energy demand. Traditionally contractors have been trained to correct efficiency problems with a product approach rather than the whole house approach. With the whole house approach, each component is looked at together. The building envelope is tested for leakage by pressurizing the house. The integrity of the insulation is checked with an infrared camera, ducts can be checked as well as HVAC units. The most cost effective solution can then be developed and delivered.
Also, replacing older equipment with better energy efficient ones can save homeowners sometimes $30.00 a month. Replacing incandescent lights with Cfl's reduces lighting costs. Once the efficiency improvements have been made then we look at solar. He showed an example of correcting efficiency problems in a home which saved over $800.00 in the utility bills in four months. The savings was in excess of 50%. A great time to do a retrofit program is when you first buy a home or when the PACE program begins. In Europe, energy ratings are publicized on houses for sale so houses are compared.

Kevin Wolf, consultant to non-profit organizations and community volunteer, said not a lot of things were implemented from the Housing Task Force. He suggested policy changes need to be made such

as when permits are issued for re-roofs on the flat roof houses in Davis. It should then be required that the attics or roofs have to be insulated. The Planning Commission and Natural Resources Commission could find a way to assist in making these policy changes. Approximately 1.2 kilowatt hours of electricity is needed for every 1,000 gallons of water pumped to a house and about 1.3 kilowatt hours for every 1,000 gallons of sewage that exits a house. These are costs embedded in your sewage bill. A variety of things could be done to reduce the amount of water coming to a house and the amount of sewage leaving the house that could then reduce the energy bills that are incurred by the city utilities for pumping and transporting sewage and water around. If we could help residents figure out how to save water better, it would lead to significant energy savings over time.
Currently there is no incentive for a developer of a house to make improvements to it to be more energy efficient. This is at the policy level done at the County level that could make it easier for the City to insulate and prepare affordable housing in town to reduce energy costs for those residents over time.

Marshall Hunt, Program Director of the Western Cooling Efficiency Center, emphasized cooling technologies and The California Lighting Technology Center. They are doing a lot of research on the heating and cooling side. They have pushed air cooled equipment, the standard, as far as it can go now. There is a water cooled vapor compression system such as Aqua Chill which is coming along. There is a package hybrid with a tremendous increase in efficiency with package rooftop boxes. There are also passive solar systems with water and spraying on top of roofs, innovative products. You always want to handle energy efficiency first on the whole house system. If water can be used, it is a natural cooling system but it comes with a cost when you pump water. Water needs to be conserved and you also have to worry about water quality. He predicted that in ten years cisterns would be very common and capturing water will be important. He emphasized the indirect evaporative cooling system led by Davis Energy Group and others which gives much better system efficiency. Eventually this system will be available in residential and there will be a lot of variable speed technology in the future.

Greg Mahoney, Assistant Chief Building Official and certified LEED professional, explained how the City Council approved the Green Building Ordinance in 2008 and was one of the most comprehensive in the area including the Bay Area. He said the Ordinance will need to be re-evaluated for the upcoming 2010 California Building Codes to go into effect in 2011. He said requiring insulation in flat roofs may need to be added. He explained they are looking at possibilities or measures that the City could use to "green" the resale ordinance. Some options could be a prescriptive method similar to the City of Berkeley such as a list of sustainable measures that would have to be in place at the time of resale such as Cfl's, low flow fixtures, weather stripping, pipe insulation and minimum insulation levels as well. There could be performance methods such as diagnostic testing for the HVAC system and the building envelope. There could be a point system where the owner chooses from a list. The challenge for the City would be to develop a meaningful program that didn't create hardship for the owners. The prescriptive method is the easiest, least expensive and takes the least amount of time.

Commissioner comments (and not necessarily with consensus):

- Impressed with the volume of information tonight; would like to figure out how to capture the wisdom and recommendations and how to implement it.
- Announced as part of the Valley Climate Action Center, sponsoring a series of Workshops right here in April on Water and Energy Efficiency and Financing.
- We need to make insulation sexy or something to engage the community. Having audits on resales and providing that information would be good.
- The City operates on a complaint basis. Commissions should find out ways to enact these progressive policies, otherwise it is frustrating. Why did the City take the Green Building Ordinance to the realtors first?
- The question was asked how come there isn't policy on building orientation for passive solar? Mike Corbett answered that it used to be in past Davis and state ordinances but doesn't appear to be anymore and was never enforced.
- Rental housing has a split incentive where the tenant pays the bill and the landlord pays for energy efficiency payments. Would be interested in the applicability of the HRS (Home Rating System) program for rentals.

Chairperson Braly opened for public comments.

Cory Gold, local Realtor, said he was upset that realtors weren't informed about the meeting tonight and a statement was made tonight that Realtors don't like "greening". This is not the case, realtors want to help and support the Green Building Ordinance but are against "greening" at resale. There are enough burdens on the sellers due to the required resale inspection expense. A lot of sellers don't have the money and there are better alternatives where you can get to a greater percentage of housing stock then just the resale houses. The carbon diet is an excellent idea and he liked the idea of having houses rated so that if houses have done energy efficient things it could be put on an MLS and have ratings shown.

Mark Berman said the California Association of Realtors wrote a letter in support of a program in Stockton that will start with large scale residential retrofit which will be a voluntary program with incentives. Another problem with requiring retrofit at resale is that people will do the absolute minimum and there will be a lot of missed opportunities. A proper public-private partnership that promotes whole house retrofits and requires ratings to be shown at resale may be a better carrot and stick approach and thus be more effective.

Bill Knox, office of Climate Change at the Air Resources Board, said the Public Utility Commission Strategic Plan for energy efficiency targets a 40% reduction in energy consumption in existing buildings. We are going to need to get something like that to have any faint possibility of getting on to a trajectory to get to our 2050 goals of reducing greenhouse gases. We do need to look at trigger points now such as at time of resale. We have to look at who benefits from an improved house at resale, it is the person who lives in that house. The place to go to get input is the buyers or the citizens of Davis, not the real estate industry.

Jim Kramer, retired professor from UCD, worked on a research team thirty years ago on residential energy use in Davis and Lodi. They found that people used their houses in surprising ways that often subverted the intent of the energy saving equipment. He said with more sophisticated heating and cooling systems could very well make people think that they could afford to lower the thermostat in summer and raise it in winter. He wondered if there were ways of prioritizing developments that minimize the ability of people to subvert the intention.

Anthony Eggert responded that the CEC was also involved in Smart Meter demand response and smart appliances and give people more information about their energy consumption so they are more informed with the impacts of their decisions.

Sidney Vergis asked the panel what kind of existing resources are currently available to help cities develop these kinds of policies.

Doug Fetterly said he attended the Art Rosenfeld Symposium yesterday and a comment discussed there was that inefficiency on our part was a function of our abundance. He thought that the residents by and large don't feel the incentive to conserve energy because they have the "abundance" whether it be money or whatever. If the rate structure of PG&E could be changed such as lowering the cost of Tier 1 rate usage and more drastically increase subsequent rates so that people have incentive to actually lower their usage.

Anthony Eggert responded that was in the purview of the Public Utilities Commission or the Board of a Municipal utility. There will be changes in the rate structures, the bottom tier has been fixed for sometime. As the cost of generation and distribution has gone up, it has been loaded on all the higher tiers. What they intend to do is look at opportunities to shift load away from peak and make the generation system more efficient, increase renewable energy such as solar and wind and get customers into that game of managing the load through rate structures.

Jennifer Segar announced the two workshops, PACE (Property Assessed Clean Energy) Workshops, on "Water and Energy Connection" March 25th and the Financing Workshop on April 22nd which will be put on by the City of Davis and the Valley Climate Action Center.

Chairperson Braly thanked the panel of speakers for their ideas.

7. Informational Items

A. Planning Commission Schedule

8. Staff and Commissioner Comments (continued).

There were no comments from staff or Commissioners.

9. Public Communications (continued).

There were no public communications.

10. Adjournment to the next regular Planning Commission meeting to be held on Wednesday, March 24, 2010 in the Community Chambers (23 Russell Boulevard).

The meeting was adjourned at approximately 9:19 p.m.