Testimony—Anya Schoolman-- Mt Pleasant Solar Coop

January 30, 2008. DC Clean and Affordable Energy Act Hearing

Hello. My name is Anya Schoolman I am the head of a neighborhood organization called the Mt Pleasant Solar Coop. I founded the Solar Coop with a neighbor Jeff Morley, and our two teenage sons, Walter and Diego, because of the urgent need we felt to reduce our impact on global warming.

Two ideas led us to the coop model. FIRST, if we were going to go through all the work to figure out how to install solar we might as well have a bigger impact by including more people in the project. SECOND, we needed a way to make solar less expensive. We hoped that through bulk purchase, and sharing expenses and expertise we could significantly bring down the cost. The IMMEDIATE goal was to make solar affordable, easy and widely available in our neighborhood. Our ULTIMATE goal is to develop a model that can be tested in Mt Pleasant and then rolled out across any neighborhood in D.C. Washington.

Over the last year we learned two things: 1) PEOPLE REALLY WANT TO DO THIS. 2) OUR MODEL IS BY FAR the best way to move forward. Based on the reactions of the diverse members of our community, we are convinced that if we can get the right financial package —this model could take off. When I talk to people in the neighborhood about this they get so excited. Right now, with almost no active outreach we have 53 households signed up and we are getting two or three new members a week. We have now realized that our co-op model provides a lot more advantages than just bulk purchasing. The coop helps home owners overcome all of the major obstacles to getting solar installed.

With our strategic partner Switch, we are putting together a comprehensive package that includes taking care of the purchase, financing and installation of the solar panels. The idea is that members will merely have to sign up—and they will get solar installed on their roof. The residents of DC **want** to do this! They are ready to do this. Our coop model makes the logistics easy. What we **need** is if for the City Council to make the solar market work.

Before I go into the details of what you can do to make the solar market work, I wanted to give some background about our conversations with PEPCO that began several months ago. Pepco has seemed excited about the project, because of the scale-and the potential to bring residential solar to diverse neighborhoods. PEPCO has said they hope our coop could become a pilot for a program to be rolled out throughout the city. They have suggested they may provide up -front financing for solar installations at 2% below market rate. We are really optimistic about the possibility of working with them but are determined to proceed with or without a Pepco partnership. Details about our conversations with Pepco are included in my written testimony.

PEPCO put three ideas on the table. FIRST they suggested they would like to couple our solar program with an aggressive energy conservation program that they would fund. This is a great idea—because energy conservation is the cheapest way to reduce energy use. Our coop provides a unique and effective way to deliver energy conservation programs neighbor to neighbor rather than through a scattershot approach of public service announcements or mailing coupons that get lost in a pile of junk mail. After installing solar, our members will be paying close attention to how much energy they use (and produce) making them a natural constituency for an energy conservation program.

The second thing Pepco has put on the table is financing. They have suggested that they would finance the installations on each home at 2% below market rates. Our members would pay back the loan as part of their electric bill. This is key.

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If we are serious about using solar as a real part of the region's energy mix, we need to find a way to make the financing cheap and accessible. Even relatively small systems cost about $20,000. If Pepco doesn't provide this financing, then we will need to look to another model such as private financing, a rolling fund, or a voluntary assessment on real estate taxes, such as the one just passed in Berkley California.

We prefer working with Pepco. Besides the cost savings, the most exciting thing about this approach is that it would make the projects logistics very simple, with homeowners basically taking care of their payments right on their electric bill.

THIRD, Pepco has suggested that we move to smart meters and real time pricing as part of the project. Under real-time pricing would be charged or paid at current wholesale price of energy when energy is consumed or generated. On one hand, the idea has some real appeal. We would theoretically be producing electricity during the day when energy was most expensive, and buying energy at night when it was the cheapest. Real-time pricing, however, is new territory for the Mount Pleasant Solar Coop. By itself, it is *not* a strong enough incentive to go solar. Real-time pricing creates strong incentives to shift load when that can be done at low cost, but given the unpredictability of future wholesale market prices, doesn't provide the degree of certainty needed to ensure that participants will fully recover the costs of their solar panels. We think that real-time price is, by itself, a weak incentive for actually installing solar. It is not sufficient for our members. **We are hopeful that things will work out with Pepco, but we are determined to make this project work, with our without them.**

At this time I would like to take this opportunity to make a few comments on the proposed Clean and Affordable Energy Act of 2007.

The language you are considering in this bill on "net metering" that governs what solar producers get paid for the energy they produce is very important. We strongly support the language we have seen so far. Clear and fair net metering is one of the keys to setting ground rules to stimulate solar. The proposed language in the bill is a huge improvement over the status quo where a producer is still charged transmission and distribution fees for the energy they produce **on their own roofs thus saving Pepco distribution & transmission costs**.

There are two other key elements in this bill could make or break the future of solar in Mount Pleasant. They are the Renewable Portfolio Standard (RPS)—the amount of renewable energy the utility is required to use in it's energy mix, and the Alternative Compliance Price (ACP)—the fine that utilities pay if they don't hit

their renewable quotas. Those two numbers in combination determine whether you have a robust renewable energy market and determine the "value" of the renewable energy credits generated by our project. The utilities have a choice, in order to meet the renewable portfolio standard they can buy these renewable energy credits from projects like the Mt. Pleasant Solar Coop. Or they can pay the fine set up by the ACP. So both numbers must work together.

These renewable energy credits are key to financing our solar panels. **You, the DC City council get to decide these numbers.** When the two numbers are high enough—the market will pay us for the renewable energy credits we generate with our project and solar will happen. If you get the numbers right—our neighborhood solar coop--and many more like it--will take off!

Besides setting the market for renewable energy credits there are two important reasons to set a high renewable portfolio standard for DC. One they will reduce carbon consumption. Two, they will reduce energy demand. The MD-DC-NoVA region is a critically congested corridor in desperate need soon of additional transmission capacity or generating capacity inside. We need to generate capacity that does not require transmission to be delivered. Solar power, if done right, could actually address this need quickly and in a meaningful way.

On the renewable portfolio standard, the current language calls for a very low carve out for solar-- only .4 percent by 2020. The proposed bill would increase the amount of renewable energy required for DC from 11% by 2022 with a .4% solar carve out, to 20% by 2020, keeping the .4% solar carve out. That is four tenths of one percent folks. While I want to applaud the language increasing the total percentage of renewables required, we can do a lot better on the solar carve out. According to the Public Service Commission the four tenths of one percent solar carve out would mean only around 1000 kilowatts of solar required to be produced in the DC area the second year, and increasing by less than a 1,000 kilowatts for each of the next few years.

Solar Carve-Out in the Clean and Affordable Energy Act of 2007

Year	DC Consumption (kWh)	RPS %	Solar kWhs	Require Capacity Kw
2007	11,000,000,000	0.005%	550,000	448
2008	11,143,000,000	0.011%	1,225,730	1,005
2009	11,287,859,000	0.019%	2,144,693	1,759
2010	11,434,601,167	0.028%	3,201,688	2,626
2011	11,583,250,982	0.040%	4,633,300	3,800
2012	11,733,833,245	0.070%	8,213,683	6,737
2013	11,886,373,077	0.100%	11,886,373	9,749
2014	12,040,895,927	0.130%	15,653,165	12,839
2015	12,197,427,574	0.170%	20,735,627	17,007
2016	12,355,994,133	0.210%	25,947,588	21,282
2017	12,516,622,056	0.250%	31,291,555	25,665
2018	12,679,338,143	0.300%	38,038,014	31,198
2019	12,844,169,539	0.350%	44,954,593	36,871
2020	13,011,143,743	0.400%	52,044,575	42,686

Assumptions: Present DC annual consumption is 11 billion kWh

Increase in consumption is 1.3% per year as per January 2008 PJM load forecast for the Pepco zone

Each kW of installed PV capacity generates 1,227.8 kWh/yr.

System degradation is 0.7% per year

Entire solar carve-out is satisfied by PV (no solar thermal)

To put this in perspective, the Mt. Pleasant Solar Coop alone could provide around 230 kilowatts per year. In combination with three commercial installations, we could deliver the targeted capacity for DC in the first year. If the

council doesn't change the renewable energy standards, the city will likely have to wait until 2014 for solar power to fulfill even the modest goal of 10,000 kilowatts. In the meantime, there would be no momentum.

- We wouldn't be developing a solar installation industry.
- There would be no new jobs.
- Instead, the city will have to build a new power plant to take care of DC's urgent and increasing energy needs.

This is the making of a self fulfilling prophecy. If we put the target for solar too low, the economics will never really work to make solar happen. We will fail, because we have designed the program to fail.

Currently, DC is considered a high congestion area. That means we need more energy. The question is how we are going to get it. We already have one of the worst childhood asthma rates in the country-- 12.5% of children in DC. So the stakes are higher here than just solar panels on a few houses. The question is can we change course and set a course toward real sustainability, clean energy and better health for the families that live here.

Consider another set of numbers. Navigant is a respected consulting company. They estimate that the market for roof-mounted solar power in DC by **2010** is **1,267** megawatts. They say we could obtain 669 megawatts from residential solar power and 598 megawatts from commercial installations. Under the proposed DC solar carve-out, the city would generate the **42.7** megawatts by **2020**.

We have the possibility of 1,267 megawatts and we are settling for 42.7 megawatts. We are accepting failure.

Compare D.C. to New Jersey. Our neighbors to the north have adopted a solar carve out that reaches 1% by the year 2017. At that time, D.C.—if it does nothing—will still be at two tenths of one percent.

Now, consider the second part of the solar equation: the Alternative Compliance Fee.

Our partner Switch Energy has created a detailed model of all the costs and income streams for a Mt. Pleasant family installing solar on their roof. Our best conservative estimate is that a non-compliance fee of 82 cents per kilowatt hour or $824/MWh would create a reasonable stimulus for solar in DC. Besides the rate itself, it is also important for the council to understand that we will be financing for the costs of a 20k system over a minimum of 15yrs. Thus, you need to remember that the Alternative Compliance Penalty must stay at a high enough level to cover the costs of our investment for 15 years. There is a temptation to drop the number quickly after a few years assuming that with increased adaptation solar will get cheaper. However, it is important for you to remember that our costs for a system bought in 2008 will be constant throughout the life of our loan.

I am just here to tell you that the residents of the city are ready. We will do the leg-work, take the risk, put strange contraptions of our roofs, and even deal with dreaded city permit procedures, to make this happen. But it will only work if the regulatory structure and the economics are designed in a way that makes it happen. What I am asking you here today is—get the numbers right. Design to succeed.

Thank you very much for your time today.