

**From:**

[REDACTED]

**Subject:**

Feedback on the draft MoCo Climate Action Plan - ITS A DISASTER.

**Date:**

1/4/2021

Hi MoCo Climate team (and County Council Members. ..)  
I just finished reading the draft Action Plan -

**General Feedback:**

This plan would be a disaster for the county. It is WAY over-reliant on prescribed and regulatory solutions that would add significant costs to home-owners and businesses, raise the cost of living and working here, and halt all economic growth in the county. It also tries to solve many other important but unrelated problems, much like the green-new-deal does.

**PLEASE KILL THIS PLAN and START OVER.**

**Specific feedback:**

1. Forcing residents and businesses to buy expensive green power from the county is a loser proposition and will be hugely unpopular (just like the liquor stores are). It will also be fought in courts by the electric companies like Excelon. This is a dead on arrival idea. Kill it. It would cause a stampede OUT of the county and halt all economic growth. It is not a one "\$" dollar sign private "cost" as shown in the plan - it is a 5-\$ "\$\$\$\$\$" expensive private cost.

2. Forcing people to buy electric cars and appliances is another loser proposition. It will be fought in courts. It reduces consumer choice, and penalizes natural gas, which is much cleaner than oil. It will not be popular, so it will not be adopted.

NOTE - Items 1 and 2 above are typical of the "regulation heavy" approach that democrats are criticized for, again and again. You cannot mandate good behavior, and every time governments try to force such onto americans there is a heavy political backlash (e.g. populism). This county should be a national example of positive motivation via smart economics - not a poster child for memes and populist rants.

3. This plan does NOTHING to help LOWER THE COST of shifting to solar power in the county - and in fact it will likely raise costs. Right now the cost of permitting is causing significant added costs and delays to solar panel conversion and builds. I am adding 10 points below that the county can easily do that would help SIGNIFICANTLY reduce the cost of solar power here. Reducing the cost of solar

conversion to about \$1 per installed watt would be a significant motivation. Changing the State of MD equation for Solar Energy Resource credits to front-load the benefits would cause a stampede of conversions and make MoCo one of the best places to do business, as the electricity would be essentially free after 4 years.

4. The plan tries to solve way too many important but unrelated issues (e.g. community gardens, more bikeways). The plan needs to be as "clean" as the power it seeks to promote. Shorten or remove the unrelated social issues and focus on developing cleaner energy usage and creating strong motivations for conversion. Making solar cheap enough for everyone, then providing subsidized low-rate financing that covers the up-front costs if needed. Turning this plan into a means of solving other problems will only raise costs and make the goals of this plan even more unaffordable.

5. There are lots of houses and businesses where there is significant tree canopy and shade preventing a green conversion. To do that the county needs to accept the ability to install micro-grids in other locations, not just mention it in passing. This is a basic and fundamental problem, and papering it over with platitudes will not solve the problem. Chopping down tens of thousands of trees to clear the rooftop views is not the answer either.

6. Clean up the economic metrics in the plan. Many of the items are showing up with one or two "\$" signs as the related private or public cost (e.g. collective electricity plans, forced conversions, forced code upgrades that require electric appliances). Those indications are total fiction. IT will cost a LOT of money for the county and private businesses, and homeowners, to convert to electric appliances, solar power, or electric cars. Penalizing those that don't is not reasonable. The county cannot force people to spend money they do not have, and making it "free" will be a huge cost. The focus and sheer naivete of the authoring team is immense. These are hard problems, and involve billions of dollars in economic costs and hardships.

My additional comments and suggestions for reducing the cost of solar power in MoCo are provided below. The first 9 of them are relatively easy for the county to adopt, and carry low costs to our county's economy (and many gains). The last item (#10) is a MD-State item.

Thank you again  
Dr. David Lechner  
Montgomery Village, MD 20886

On Wed, Nov 6, 2019 at 5:43 PM David Lechner <[REDACTED]> wrote:  
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Dear Montgomery County Executive and County Council Members:

I saw in the news that you are considering a mandatory solar panel requirement for newly built homes. I wanted to purchase solar panels this year to support the conversion to greener power sources, but it is still too expensive. My educational background includes degrees in electrical engineering, physics, and engineering public policy, so I spent some time looking into the value proposition of going solar. Here is what I found out.

The quotes I got would provide between a 7 and 15 year payback, and ranged from a low of just over \$25,000 to a high of \$50,000. That is a lot of money. Even with a 30% tax credit and about \$620 in solar energy credits per year the payback was too long. The average national installed price is about \$2.85 per installed watt, although in California where it is being mandated the cost is closer to \$2.00 per installed watt. An average 4-bedroom home needs about a 8 kW system to provide its energy needs, and a 10kw system provides a slight positive balance to help power homes that do not have a favorable roof. A townhome might only require a 3 to 4kw system. At a cost of \$2.00 per installed watt the payback after the tax credits is just over 5 years. This is nearly a tipping point, but a price point of \$1.50 per installed watt would provide about a 4 year payback period, which should significantly increase the adoption rate for rooftop solar power. This would require that the labor cost of installing the system be only about the cost of getting a new roof, which is quite reasonable given the amount of work involved in the actual project. To do this requires elimination of almost all specialty engineering type labor.

Such a low price point would represent a near commoditization of solar power pricing. Our residents, and our planet, desperately need cheaper solar systems installed on a larger scale. At this point however, the county and state regulatory requirements are helping to prevent the wide scale deployment and installation of solar panels and have not kept pace with the evolving market-place. If you could make Montgomery County a leader in the conversion to green power sources it would serve as a national model and could help reduce the national carbon footprint by significant margins.

Please consider the following ideas in order to reduce the price points and improve the adoption of solar power in our county:

1. Require that all county or state licensing of electrical workers include solar power panel installation.
2. Eliminate any special licensing for contractors to install solar panel racking.
3. Require that our county permitting offices create a method for electrical contractors and solar power companies to submit several standard one-line electrical diagrams that are approved once and used in an unlimited number of homes without any further approvals or permits. It is ridiculous that contractors spend a day getting permits for a common product that is now commoditized and available on a mail order basis.
4. Allow homeowners to file "of the shelf" one-line diagrams for solar power kits that are now commodity items.

5. Require that electrical contractors and solar power companies file an online notice that informs the county that the upgrade was installed and how many panels were installed, their size, the orientation, the pitch of the roof, and total capacity in kw, so that capacity growth is tracked.
6. Require that new homes with roofing oriented between Southeast and Southwest have solar panels. (Requiring all homes to have them is wasteful, inefficient, and silly. Some homes do not have the right orientation). Alternately, require that about 40% of homes in each new community include solar panels, which are to be designed to provide energy sufficiency for each home.
7. Add additional solar power training at all of the county's community colleges.
8. Allow homeowner installation of the racking systems without permits. It is their home. Create and require an adult-education training class if you really want to (again, aka Frederick County).
9. Eliminate the requirement for a structural engineering certificate for the panel racking systems of a certain maximum size and weight and when including the edge trim to deflect wind, much as Frederick County (MD) already does.

10. (MD STATE ITEM): Consider a higher solar energy resource credit price (e.g. \$150 per kw) but which expire after 5 or 10 years. This will help speed the conversion rate by supporting those that convert soon while still providing the reward of free power as the long-term savings.

The changes to permitting and licensing will reduce overhead costs and help push down installation labor costs. Requiring new homes to have solar panels will increase the volume of installed solar power, helping to train more workers and reduce costs. This approach is designed to favor the consumer and homeowner in this process, while helping the environment and eliminate electric power bills for a large number of homeowners within a few years. This will make Montgomery County a very attractive place to live (and work). Reducing the costs will also appeal to business owners, who will move towards increased use based on the financial proposition of a 4 year payback. I estimate that these policies would enable about 35% of the current homes in the county to go solar, which would enable about 50% of the county's electricity needs.

The solar industry had a lot of variation 10 years ago, but today the products are mostly standardized, with two racking systems dominating the market, three power inverter companies dominating the markets, and a wide variety of similarly priced solar panel products. Continuing the current regulations and "special custom-built one-at-a-time" permitting approach in MARYland and Montgomery County is holding back the conversion rates and preventing homeowners from achieving the savings of free solar power. The solar power companies are being required to retain an engineering staff to support this burdensome permitting process, which is now keeping prices from falling further. This is a problem that you can change, and I hope you are able to, so I can afford solar power at my home as well (I have a large southwest facing roof that would be perfect for it).

Thank you for your continued efforts to support green power in Montgomery County.

Please let me know if it would be useful to provide this information in public testimony.

David Lechner, Ph.D.

