Good Afternoon Chairman Middleton, Vice Chairman Astle, and members of the Committee. My name is Amit Ronen and I am Director of the GW Solar Institute at George Washington University and a Professor at the Trachtenberg School of Public Policy and Public Administration.

Thank you for the invitation to testify before you today on Senate Bill 786, which would establish a three-year pilot program for up to 50 megawatts (MW) of Community Renewable Energy Generating Systems.

The GW Solar Institute focuses on researching the public policy barriers to the further deployment and scale of solar energy so I will focus my remarks on the impact this legislation may have on solar energy penetration rates in Maryland. I would note that solar energy currently accounts for over 98 percent of the installed net energy metering capacity in the Free State.

**Solar Industry Growth**

Solar energy is booming, thanks to a combination of photovoltaic panel prices declining 80 percent in just the last five years, innovative new financing models, and supportive public policies.

A comprehensive survey released last month by the GW Solar Institute and the Solar Foundation found that the solar industry created 24,000 new jobs in 2013, a growth rate 10 times faster than the national average employment rate. However, even with solar making up 29 percent of all new electricity generation capacity in 2013, it still accounts for less than one percent of electricity sales in every state except Hawaii. We believe that despite these encouraging trends and solar energy’s increasing competitiveness relative to traditional electricity generation sources, its growth will be circumscribed unless a number of key legal and regulatory barriers are addressed.
Solar Industry Growth in Maryland

Maryland has enacted a series of public policies that encourage solar investment and help account for, according to our survey, one hundred new living-wage solar jobs for a total of 2,000 solar positions in the state. These policies include strong net metering and interconnection policies, various tax credits, and a two percent solar carve-out in your renewable portfolio standard that helps support a fairly robust Solar Renewable Energy Credit (SREC) market.

Limits of Net Metering

While net metering policies like those in place in Maryland have proven to be an essential prerequisite for growth in distributed solar generation --and are subject to increasingly intense regulatory battles in some states-- they are actually fairly limited in their application relative to the opportunity presented by distributed solar.
It is estimated that only about a quarter of residential rooftops are suitable for solar installations due to constraints such as inadequate roof space, shading, and other structural limitations. Moreover, those estimates typically do not account for additional factors like financing and ownership issues so we believe only around 10 percent of residential rooftops are able to go solar under most state net metering policies.

Senate Bill 786 proposes to overcome some of these limitations by allowing for Community Renewable Energy Generating Systems that gives consumers who are unable or unwilling to site systems on their personal property the opportunity to participate in a larger, offsite solar energy project. This policy, commonly called virtual net metering (or in the solar space usually referred to as community solar, shared solar, or solar gardens), has been shown in other states to encourage innovation and entrepreneurship by opening new ways for consumers, the solar industry, utilities, and other stakeholders to invest in solar projects.

Benefits and Challenges of Virtual Net Metering

While there are a variety of virtual net-metering models, they all essentially allow ratepayers to aggregate their buying power to overcome economic, physical, and regulatory barriers that may prevent them from acquiring distributed renewable energy on their own properties.

That includes providing renters or owners in multifamily units, low-income residents, or homeowners with unsuitable properties a way to invest in solar energy that can save them money and allow them to reduce their carbon footprint. Virtual net-metering can also lower buy-in costs for ratepayers that want to go solar but may not have the upfront capital to purchase their own system or consumers who want to try out the concept before committing. To date, most shared or community solar projects in the United States have been locality-specific programs that faced high administration and legal costs. Despite these hurdles, experience with actual projects has shown significant economies of scale based on bulk panel purchases, comparatively lower soft costs (system costs not tied directly to the cost of the generating technology such as installation, interconnection, and permitting), and savings associated with centralizing operations and maintenance.

Community-scale arrays are not without their challenges. Even with permissive legislation, the roughly 50 community renewable projects developed to date all have had to deal with a number of financial, organizational, and regulatory issues. For example, the federal investment tax credit (ITC), which typically pays for 30 percent of a solar system cost, requires projects to be located on the property of the entity claiming the credit. In addition, many or these projects are organized by nonprofits that do not have the tax appetite to monetize the
ITC and usually do not have the same access to capital as a commercial entity. Community-scale renewable projects may also be subject to federal and state securities regulations depending on the number of investors and size of the project which can greatly complicate project implementation.

Currently, 10 states have authorized some form of virtual net metering, including neighboring Delaware and Washington, DC. The District’s law, which passed unanimously last October, is arguably the most permissive, allowing for projects of up to 5 MW with no overall capacity cap, and participants receive a pre-set rate (Pepco’s GSLV-ND rate) that should allow most projects to be financially viable.

Senate Bill 786 is a relatively modest proposal in comparison. It is a three year pilot program with an incremental cap, projects are limited to 2MW and 100 percent of the baseline annual electricity use, and utilities, unlike with traditional net metering customers, will be able to recover a portion of their distribution charges.

In addition, under Senate Bill 786, electric companies may also own and manage community-scale projects. In theory, this could allow utilities to place projects at optimal locations that avoid the need for grid upgrades and could even improve grid performance and reliability.

Thank for the opportunity to speak with you today. A report last year ranked Maryland 12th in leading solar states and I believe this legislation could help ensure Maryland’s continued leadership by providing more renewable energy options, along with its associated economic and environmental benefits, for your constituents.

Respectfully submitted,

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Director, GW Solar Institute