Community and Virtual Net Metering: Overcoming Barriers to Distributed Generation

By: Shannon Huecker

I. Introduction

Across America, states and municipalities are attempting to encourage both the investment in and the development of local energy sources, especially those utilizing renewable resources.[1] Net metering is an important means of encouraging distributed generation projects by making them more financially viable. However, states have enacted wildly varying net metering laws, and so far few states have been successful in promoting widespread development of distributed generation facilities.

Some of the primary obstacles preventing development of distributed generation are high up-front capital costs, property ownership issues, and poor access to direct sunlight. Virtual and community net metering programs help overcome these barriers, and help reduce the burden on the main power grid, thereby improving reliability and reducing transmission losses. Virtual and community net-metering offer many benefits to states and their residents, and Virginia, Maryland, and the District of Columbia[2] should enact legislation explicitly permitting such arrangements for all classes of customers.

Part II of this paper begins by discussing what net metering is, and what its benefits are. It then discusses three of the barriers that prevent distributed generation and net metering programs from being more widely utilized: high up-front capital costs, property ownership

[1] *See, e.g.*, D.C. Code § 8-171.03 (2010).

[2] Since the writing of this paper, the District of Columbia has in fact passed The Community Renewables Energy Act of 2013. This is a huge step in the right direction, but there are still ways in which this Act can be improved, which will be discussed later in this paper.

problems, and property that is not well suited to distributed generation. Next the paper introduces the concepts of community and virtual net metering, and discusses why they are important and how they help overcome the aforementioned barriers to distributed generation and net metering.

Part III of this paper focuses on the current regulatory and statutory schemes in Virginia, Maryland, and the District of Columbia. It discusses how these regulations currently in place prevent customers from participating in community and virtual net metering.

Part IV discusses alternatives to the proposed solution. It discusses the no-action alternative, as well as the approaches other states have taken to community and virtual net metering, identifying the major ways in which states' programs differ.

Finally, Part V of this paper discusses legislation currently before the Council of the District of Columbia and legislation before the Maryland General Assembly; these proposals would permit community and virtual net metering. The paper discusses why the D.C. bill is more effective, and argues both Virginia and Maryland should introduce legislation closely tracking the D.C. bill. It also discusses some modifications that could make the D.C. bill more effective.

II. Net-Metering

A. What is Net Metering?

In most jurisdictions, if the electric generating facility produces more electricity than the owner/operator can consume on-site, the owner is forbidden from selling the excess electricity to other retail electric customers—unless the owner-operator is willing and legally allowed to be regulated as a utility.[3] Net-metering allows the owner-operator of the generation facility to sell

[3] *See, e.g.*, D.C. Code § 34-214 (2010).

excess electricity back to the utility.[4] Without net metering, many projects would be financially infeasible, or at least less attractive to a potential investor. A Department of Energy website states that "[n]et metering is a low-cost, easily administered method of encouraging customer investment in renewable energy technologies."[5]

Net metering also has important benefits for the main power grid. By producing energy locally, near the point of consumption, the burden on transmission and distribution infrastructure is reduced, and losses are avoided.[6] Distributed generation, especially solar, also has the ability through net metering to reduce peak demand on the main power grid, creating a smoother demand curve.[7] By lowering peak demand, net metering and distributed generation can help improve the reliability of electric service for all customers.[8] Additionally, the reduced peak demand on our traditional electric infrastructure means utilities can avoid bringing the most expensive generation facilities on-line, reducing energy costs to all customers.[9]

That is why, as of March 2013, forty-three states have enacted "Net Metering" laws,[10] which permit the owners of such renewable electric generating facilities to transmit the excess electricity back into the main power grid, and to receive either credit or payment from the utility

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[4] Solar Energy Indus. Ass'n, *Net Metering By State*, http://www.seia.org/research-resources/net-metering-state (last visited Apr. 23, 2013).
[5] U.S. Dep't of Energy, *Energy Efficiency and Renewable Energy: Net Metering*, http://apps3.eere.energy.gov/greenpower/markets/netmetering.shtml (last visited Apr. 24, 2013).
[6] Steven Weissman & Nathaniel Johnson, *The Statewide Benefits of Net Metering in California & Consequences of Changes to the Program*, Univ. of Cal. Berkeley Center for Law, Energy & the Env't, (Feb. 17, 2012), http://www.law.berkeley.edu/files/The_Statewide_Benefits_of_Net-Metering_in_CA_Weissman_and_Johnson.pdf.
[7] Dan York et al., *Examining the Peak Demand Impacts of Energy Efficiency: A Review of Program Expertise and Industry Practices*, Am. Council for an Energy-Efficient Econ., *available at* http://www.epa.gov/statelocalclimate/documents/pdf/york_paper_ee_peak_demand_4-12-2007.pdf (last visited Apr 24, 2013).
[8] *Id.*
[9] Fed. Energy Regulatory Comm'n, *Assessment of Demand Response and Advanced Metering,* Staff Report, Docket No. AD-06-2-000, *available at* http://www.ferc.gov/legal/staff-reports/demand-response.pdf (last visited Apr 24, 2013).
[10] The Energy Policy Act of 2005 requires all utilities to make net metering available upon demand (though it does not set standards). However, because Virginia, Maryland, and the District of Columbia have all enacted net metering laws, this paper will discuss only the state law aspects.

in exchange.[11] In some states, if the customer-generator produces more electricity than they consumed in a given month, they may receive credit on their utility bill toward the next month.[12] In a few other states, at the end of the billing year, the customer may receive the monetary equivalent of his accumulated credits.[13] These laws typically also restrict the size of the generating facility that may participate.[14]

Net metering programs are a vitally important part of encouraging widespread development of distributed generation development. However, so far they have not been overwhelmingly successful. As of 2011, only nineteen states had over 1,000 solar net metering customers, and only four states had over 10,000 solar net metering customers.[15] Over half of the 219,000 solar net metering customers in America in 2011 were in California.[16]

B. Barriers to Distributed Generation and Net Metering

Some of the major barriers preventing distributed generation, and thus net metering, from being more widely utilized are high up-front capital costs, property ownership issues, and poor access to direct sunlight. High up-front capital costs may be the most significant barrier to distributed generation.[17] The high costs of designing, installing, operating and maintaining any

[11] Solar Energy Indus. Ass'n, *supra* note 4
[12] *See, e.g.*, NEV. REV. STAT. § 704.775 (2009).
[13] *See, e.g.*, N.J. ADMIN. CODE § 14:8-1.2 (2012).
[14] *See, e.g.*, D.C. Mun. Regs. tit. 15, § 903 (2010).
[15] Solar Energy Indus. Ass'n, *supra* note 4. The four states were CA, NJ, CO, and AZ.
[16] *Id.* California had 115,000.
[17] City of San Diego, *San Diego Regional Energy Infrastructure Study,* available at http://www.sandiego.gov/environmental-services/energy/news/pdf/ch_5.pdf (last visited at Apr. 14, 2013).

distributed generation facility have lead to most installations being either commercial or photovoltaic solar panels on the homes of the relatively wealthy.[18]

Property ownership issues also often prevent businesses and residents from enjoying the benefits of distributed generation. Businesses and residents who rent property do not have sufficient financial incentive to pay the capital costs of installing a distributed generation facility on the rented property to meet their energy needs.[19] Furthermore, in some states the generation facility must be intended primarily to offset the property owner's own energy needs, not the needs of a renter.[20] This is very significant, since seventy percent of businesses lease their office space, according to California State Senator Lois Wolk,[21] and because a high percentage of urban residents do not own their own home.[22]

Finally, many properties do not have access to a large area of direct sunlight. Some properties struggle with shade, and many others have roofs that are not properly oriented for solar arrays.[23] Roughly estimating, every one hundred square feet of roof space can fit enough panels to produce one-kilowatt hour energy.[24] Ideally, roofs should be oriented to the south.[25] Not many roofs have several hundred feet of roof-space oriented to the south. A 2008 study by the National Renewable Energy Laboratory found that, when shade, roof size and structure, and

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[18] Jason Wiener & Christian Alexander, *On-Site Renewable Energy and Public Finance: How and Why Municipal Bond Financing is the Key to Propagating Access to On-Site Renewable Energy and Energy Efficiency*, 26 SANTA CLARA COMPUTER & HIGH TECH. L.J. 559 (2010).
[19] Melanie Turner, *Solar Industry Could Get Boost From 'Virtual Net Metering' Bill*, http://www.bizjournals.com/sacramento/print-edition/2013/01/11/solar-industry-boost-virtual-net-meter.html (last visited Apr. 24, 2013).
[20] *See, e.g.*, D.C. Code § 34-1501 (2010).
[21] Turner, *supra* note 17.
[22] Edgar O. Olsen, *Promoting Home Ownership Among Low-Income Households*, The Urban Institute (2007), *available at* http://www.urban.org/UploadedPDF/411523_promoting_homeownership.pdf.
[23] Adam Sewall, *What Makes a Roof 'Good' For Solar?*, available at http://www.getsolar.com/blog/what-makes-a-roof-good-for-solar/6928/ (May 2010).
[24] *Id.*
[25] *Id.*

property ownership issues are factored in, only 22-27% of residential rooftop area is suitable for hosting a photovoltaic solar panel system.[26]

C. What are Community and Virtual Net Metering?

Community and virtual net metering are two forms of net metering arrangements that have the potential to overcome the three barriers to distributed generation and net metering discussed above.

Community net metering (sometimes called "neighborhood net metering") permits multiple customers who live on the same, or sometimes contiguous, property to jointly share the benefits of a solar project that is located on-site.[27] This arrangement permits the residents of an apartment building to jointly share the net metering credits generated by an on-site solar array, for example.[28] The generated electricity may be partially consumed on-site, or all of it may be fed back into the grid through net-metering.[29]

Virtual net metering is a separate, though closely related, net metering arrangement.[30] Virtual net metering allows customers to receive credit on their electric bill for the electricity generated at a facility that is not physically connected to their property or meter.[31] Typically, the

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[26] Paul Denholm & Robert Margolis, *Supply Curves for Rooftop Solar PV-Generated Electricity for the United States,* Nat'l Renewable Energy Lab. (Nov. 2008), *available at* http://www.nrel.gov/docs/fy09osti/44073.pdf.
[27] Laurel Varnado & James Rose, *Community Net Energy Metering: How Novel Policies Expand Benefits of Net Metering to Non-Generators*, http://indianadg.files.wordpress.com/2010/08/varnado_rose_ases20091_community-net-metering.pdf (last visited Apr. 23, 2013).
[28] *Id.*
[29] *Id.*
[30] The two terms are frequently used interchangeably in the literature, and sometimes the concepts are combined and simply referred to collectively as "neighborhood" or "virtual" net metering. *See, e.g.*, John Farrell, *Virtual Net Metering*, http://www.ilsr.org/virtual-net-metering/ (last visited Apr. 23, 2013).
[31] CT Energy Info, *Virtual Net Metering*, http://www.ctenergyinfo.com/virtual_net_metering.htm (last visited Apr. 24, 2013).

facility is required to be located within the same neighborhood or utility service territory,[32] or within a certain distance.[33] For example, Massachusetts requires the customers to be located in the same "neighborhood" as the generation facility,[34] and defines "neighborhood" as a geographic area within the municipality, which, among other things, is "recognized by the residents as including a unique community of interests."[35] In virtual net metering, the generated electricity is all fed back into the main power grid, instead of being partially or entirely consumed on-site, so some consider it a "bill credit mechanism," rather than true net metering.[36]

D. Why are Community and Virtual Net Metering Important?

Community and virtual net metering are important because they have the potential to overcome some of the barriers preventing many businesses and residents from getting distributed generation and participating in net metering. First, community net metering helps to defray the high up-front capital costs associated with distributed generation facilities, by spreading the costs among numerous customers, rather than placing the cost on only one customer.[37] Additionally, "larger systems are cheaper per watt to install," meaning groups of customers can take advantage of economies of scale and get distributed generation more affordably.[38]

Second, virtual net metering overcomes the property ownership problem by allowing the customer to receive credit for generation at a facility on an unrelated property.[39] This overcomes

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[32] *See, e.g.*, CONN. GEN. STAT. ANN. § 16-244u (2011).
[33] *See, e.g.*, 73 PA. CONS. STAT. § 1648.2 (2007).
[34] MASS. GEN. LAWS ch. 164, § 140 (2008).
[35] 220 MASS. CODE REGS. 18.02 (2012).
[36] Telephone interview with Joseph Wiedman, Partner, Keyes, Fox, &Wiedman LLP (Mar. 21, 2013).
[37] Jason Coughlin & Karlynn Cory, *Solar Photovoltaic Financing: Residential Sector Deployment*, Nat'l Renewable Energy Lab (2009), *available at* http://www.nrel.gov/docs/fy09osti/44853.pdf (last visited Apr. 25, 2013).
[38] Varnado, *supra* note 24.
[39] SF Environment, *Virtual Net Energy Metering at Multitenant Buildings*, (Feb. 2013) http://www.sfenvironment.org/sites/default/files/fliers/files/virtual_net_energy_metering_at_multitenant_buildings_0.pdf.

barriers such as landlords who will not authorize installation of a distributed generation facility on their property, or such as uncertainty over how long the tenant will remain at that location. The tenant can invest in the distributed generation, knowing that as long as they stay within the geographic limits of the virtual net metering program, the credits from the generated electricity will be applied to their utility bill wherever they move.

Third, community and virtual net metering both allow customers with property not well situated for distributed generation to nevertheless participate in net metering.[40] For photovoltaic solar panel systems, there are several reasons a roof may not be appropriate. The roof should be south facing in order to generate the most power.[41] The roof space must be unobstructed and shade-free.[42] The roof should be simple; chimneys, ducts, and unusual contours add to the complexity and cost of solar installations.[43] The roof should also be relatively new, because the cost of uninstalling the system to replace the roof is prohibitive.[44] Finally, the roof needs to be big: the average residential, roof-mounted, solar panel system has a capacity of about five kilowatts, which requires between five and six hundred square feet of roof-space.[45] For multi-tenant buildings especially, roof space is a major limitation.

Furthermore, community and virtual net metering also offer the benefit of making net metering programs more equitable.[46] By reducing the capital costs of distributed generation and permitting residents of multi-tenant buildings to participate, community and virtual net metering

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[40] Kevin McCarthy, *Pros and Cons of Neighborhood Net Metering*, Office of Legislative Research, Report 2010-R-0034, *available at* http://www.cga.ct.gov/2010/rpt/2010-R-0034.htm (last visited Apr. 24, 2013).
[41] Xcel Energy, *Solar PV Systems: Frequently Asked Questions*, http://www.xcelenergy.com/staticfiles/xe/Marketing/Managed%20Documents/co-res-bus-Solar-FAQs.pdf (last visited Apr. 24, 2013).
[42] *Id.*
[43] Sewall, *supra* note 21.
[44] *Id.*
[45] *See* Xcel, *supra* note 37.
[46] SF Environment, *supra* note 35.

help make distributed generation and net metering available to low- and middle-income families that had no access before. Moreover, by making net metering available to a much broader portion of society, community and virtual net metering reduce the argument that net metering unfairly burdens those customers who don't participate or (in many cases) couldn't participate.[47]

Finally, by broadening the potential market for distributed generation, community and virtual net metering create opportunities for energy developers that didn't exist before, thereby creating jobs and tax revenue without using public funds.[48] These energy developers help states and municipalities meet their energy needs with a domestic supply of clean energy. To the extent the generation facilities utilize renewable resources, they help utilities meet their renewable portfolio standard requirements, and reduce pollution from coal-burning facilities.

III. Problem: How Does Current Statutory Scheme Prevent It?

Despite the many benefits of community and virtual net metering, few states have enacted legislation explicitly permitting such arrangements.[49] Although Virginia, Maryland, and the District of Columbia all have enacted net metering programs, currently all three prohibit community and virtual net metering in most forms.

In Virginia, in order to participate in net metering, the distributed generation facility must—in addition to capacity limits and other requirements—be on the customer's premises, on the customer's side of the interconnection, and primarily intended to offset all or part of the customer's own electricity requirements.[50] The requirement that the generation facility be situated on the customer's premises and side of the meter prevents virtual net metering

[47] *Id.*
[48] McCarthy, *supra* note 36.
[49] *See id.*
[50] VA. CODE ANN. § 56-594 (2011).

arrangements, as well as to some degree community net meeting arrangements. Community net metering is separately completely foreclosed by the requirement that the facility be primarily intended to offset the customer's own electricity requirements.

Furthermore, the recently passed bill H.B. 2334 authorizes a pilot program for third-party power purchase agreements, but expressly prohibits any generation facility from serving the energy needs of more than one customer under a power purchase agreement.[51] This bill would not prevent multiple customers from receiving bill credit under a community net metering program (because such an arrangement does not involve a power purchase agreement), but does reduce the flexibility of the customer-generator arrangement.

Like Virginia, Maryland requires that the distributed generation facility be located on the "eligible customer-generator's" premises or contiguous property, and that the facility be "intended primarily to offset all or part of the customer's own electricity requirements."[52] These restrictions, again, effectively prohibit community and virtual net metering arrangements. However, Maryland does have some exceptions. Maryland allows meter aggregation for agricultural customers, non-profit organizations, and municipal governments or their affiliates.[53] These customers are allowed to allocate the bill credits for the generated electricity to the various meters' accounts in any manner they desire.[54] Maryland also permits the distributed generation facility to be owned and operated by a third-party.[55]

Finally, the District of Columbia also requires that the distributed generation facility be located on the customer's property and be intended primarily to offset all or part of the

[51] H.B. 2334, VA. Assembly, 2013 Sess. (Mar. 2013).
[52] MD. CODE ANN., Public Utilities § 7-306 (2011).
[53] MD. CODE REGS. 20.50.10.07 (2012).
[54] *Id.*
[55] MD. CODE ANN., Public Utilities § 7-306 (2011).

customer's own electricity requirements.[56] The District also requires that the customer-generator must actually own and operate the generation facility himself, and prohibits third-party involvement.[57] Finally, the District requires that the facility produce energy from renewable resources, prohibiting natural gas-fired facilities.[58]

However, under District regulations, it is *possible* that a multi-family building owner could act as a "Consolidator" and contract with either an "Aggregator," or (more likely) an "Electric Energy Service Provider," to provide renewable energy from a solar panel installation.[59] This arrangement would not be permitted to participate in net metering, but could operate as the functional equivalent of a third-party power purchase agreement. Also, any benefits of the generation facility, such as renewable energy credits, would remain with the Aggregator or Service Provider, and would not accrue to the building owner or its residents.

IV. Alternatives

In addition to the solution proposed in the following section of this paper, examples from other states provide alternatives. Many of the community and net metering programs from other states have strengths which may be copied, but all of them will be less successful at encouraging development of distributed generation and participation in net metering for various reasons.

A. No-Action Alternative

The no-action alternative will not be very successful at encouraging development of distributed generation and participation in net metering. Distributed generation will continue to

[56] D.C. CODE § 34-1501 (2008).
[57] *Id.*
[58] *Id.*
[59] *Id.*

be prohibitively expensive for most small businesses and low- to middle-income residents. Net metering will continue to be unavailable for businesses and residents who rent or do not have rights for capital improvements on the roof of their building, and for those whose property is part of a multi-tenant building. Business and residents whose property is not well-suited for solar or other generation facilities will continue to be unable to participate in net metering.

B. Other States' Approaches

Community and virtual net metering are relatively new concepts. So far, only a handful of states have enacted legislation explicitly permitting such arrangements, including Colorado, California, Vermont, and Massachusetts. Some of them have been very successful at promoting the development of distributed generation and participation in net metering. The bills currently before the D.C. Council and the Maryland General Assembly share many characteristics with the community and virtual net metering statutes in other states, no doubt utilizing their experiences. The main areas where the statutes vary from state to state are: geographic restraints, limits on the types of customers that may participate, how the benefits of the generation facility are distributed, and facility capacity limits.

All state community and virtual net metering statutes place a geographic restraint on where the distributed generation facility may be located in relation to the customers who receive the benefits (often called "subscribers"). As stated previously, Massachusetts requires that the facility and subscriber be located in the same "neighborhood," which is defined as an area "recognized by the residents as including a unique community of interests."[60] Other states, like Colorado, require that the facility and subscriber be in the same municipality or county; this

[60] *Supra* notes 31 and 32.

restriction is certainly less vague.[61] All states which permit virtual net metering require that the facility and subscriber be at least within the same utility service territory, and for some states that is the only geographic requirement.[62]

Some states restrict the ability to participate in community or virtual net metering to certain classes of customers. As stated earlier, Maryland restricts the ability to aggregate meters to agricultural customers, non-profit organizations, and municipal governments or their affiliates.[63] California only permits multi-tenant buildings and properties with multiple meters owned by a single customer to participate in community net metering,[64] and meter aggregation is allowed only for local governments.[65]

There are three general means of distributing the benefits from a generation facility to the subscribers: group billing, true virtual net metering, and joint ownership.[66] In states which utilize group billing, such as Vermont,[67] the utility creates a master bill that combines the energy usage of all participants, and then applies credits to that master bill based on the energy generated by the shared facility.[68] The participants must reach an agreement regarding how to distribute the remaining costs or credits.[69]

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[61] COLO. REV. STAT. § 40-2-127 (2010).
[62] *See, e.g.*, CONN. GEN. STAT. ANN. § 16-244u (2011).
[63] MD. CODE REGS. 20.50.10.07 (2012).
[64] Cal. Pub. Util. Comm'n, Resolution E-4481 (Mar. 2012), http://docs.cpuc.ca.gov/word_pdf/AGENDA_RESOLUTION/161324.pdf.
[65] Cal. Pub. Util. Code § 2830 (2008).
[66] Solar Roadmap, *Emerging State Policies to Support Community Shared Solar*, http://www.solarroadmap.com/srmdata/userfiles/Emerging-State-Policies-to-Support-Community-Shared-Solar.pdf (last visited Apr. 24, 2013).
[67] *See* VT PUB SERV BOARD Rule 5.100, *available at* http://psb.vermont.gov/sites/psb/files/rules/OfficialAdoptedRules/5100adoptedrule_2.pdf (last visited Apr. 25, 2013).
[68] Solar Roadmap, *supra* note 64.
[69] *Id.*

In true virtual net metering, the customer "subscribes" by purchasing a specific amount of the facility's generation capacity (usually no more than 120% of the customer's consumption over the last twelve months) at an agreed upon rate, and the subscriber's utility bill is credited according to the size of his or her subscription.[70] Importantly, third parties may own the generation facility.[71]

Furthermore, joint ownership is closely related to true virtual net metering. States with joint ownership require that the customers receiving the credits must own the generating facility jointly.[72] The joint owners receive credit on their utility bill proportionate to their ownership interest in the generation facility.[73]

Facility capacity limits also fluctuate from state to state. Capacity limits are typically set between two and ten megawatts, but can vary beyond that.[74] Some states require that the community net metering facility serve a minimum number of customers, typically either two or ten.[75] Finally, credits to the customer's bill which accumulate until the year's end can be forfeited, rolled over indefinitely, converted into monetary compensation to the customer, or distributed to other customers.

V. Proposed Solutions

The current regulatory schemes in Virginia, Maryland, and the District of Columbia must be amended in order to permit community and virtual net metering arrangements. As of April 2013, the District of Columbia and Maryland have both introduced legislation that would permit

[70] *See, e.g.*, COLO. REV. STAT. § 40-2-127 (2010).
[71] *Id.*
[72] Solar Roadmap, *supra* note 64.
[73] *Id.*
[74] *See, e.g.,* COLO. REV. STAT. § 40-2-127 (2010).
[75] *Id.*

such arrangements,[76] but neither has passed their respective legislation yet. Although both bills represent tremendous, laudable steps in the right direction, the District of Columbia's Community Renewables Energy Act is superior in a few ways. Therefore, there are a few ways in which the Community Renewables Energy Act could be improved. Both Virginia and Maryland should introduce and enact a slightly modified version of the District's Community Renewables Energy Act.

A. District of Columbia Community Renewables Energy Act of 2013

Councilmembers Alexander and Cheh originally introduced the Community Renewables Energy Act in the Council of the District of Columbia in March of 2012.[77] In 2013 eight councilmembers reintroduced it, and it has been referred to the Committee on Government Operations.[78] The Act allows for the creation of "Community Energy Generating Facilities" (CEGFs), which are renewable energy facilities interconnected at the distribution system level.[79] The Act permits creation of "subscriber organizations" to beneficially own or operate CEGFs for subscribers.[80] The subscriber organization may also contract with a third party to own or operate the CEGF.[81] Customers whose meters or accounts are both within the District and within the

[76] Community Renewables Energy Act of 2013, B20-0057, Council of the Dist. of Columbia (introduced Jan. 8, 2013); H.B. 1128, 2013 Leg., 433d Sess. (Md. 2013).
[77] Council of the District of Columbia, *Legislation and Laws: Community Renewables Energy Act of 2012*, http://www.dccouncil.washington.dc.us/legislation/community-renewables-energy-act-of-2012 (last visited Apr. 25, 2013).
[78] *Id.*
[79] Community Renewables Energy Act of 2013, B20-0057, Council of the District of Columbia (introduced Jan. 8, 2013), *available at* http://dcclims1.dccouncil.us/images/00001/20130110170938.pdf (last visited Apr. 25, 2013).
[80] *Id.*
[81] *Id.*

same utility service territory as a CEGF are permitted to subscribe to a CEGF.[82] The subscriber's utility bills receive credit proportional to their share of the electricity generated by the CEGF.[83]

The creation of a subscriber organization increases the overhead costs of operating the CEGF, and is not ultimately necessary—for instance, other states allow the subscriber and third party to deal directly with the utility.[84] However, the presence of the organization may make the Public Utility Commission and the utility more comfortable, and reduce the administrative costs for them.[85] Permitting third parties to own or operate the generation facility is a good step, but it should be explicit in permitting them to finance and build the facility as well.

The Act permits CEGFs to have as few as two subscribers, which allows more flexible arrangements than a high minimum number of subscribers would allow. CEGFs are not allowed to have a capacity above five megawatts, which is at the higher end of what is normally allowed in other states. The larger the permitted capacity, the better the economies of scale that can be taken advantage of in building and operating the facility.

The Act also contains a creative mechanism to benefit some low-income residents of the District. Once credits have been accumulated for more than twelve months, instead of the credits being forfeited, rolled over, or converted to monetary compensation, the credits are applied to the utility bills of eligible Low-Income Housing Energy Assistance Program recipients.[86] This mechanism benefits the most needy residents of the District. Moreover, it also serves to counter the perceptions that distributed generation and net metering only benefit the wealthy and are a burden on the most vulnerable residents.

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[82] *Id.*
[83] *Id.*
[84] Telephone interview with Grant Keefe, Senior Policy and Risk Analyst, Distributed Sun LLC (Mar. 20, 2013).
[85] *Id.*
[86] Community Renewables Energy Act, *supra* note 76.

Finally, under the Act a project retains the solar renewable energy credits, and the subscriber is not charged for transmission and distribution fees.[87] These important provisions make CEGF projects more financially viable, increasing the number of projects that can be profitably developed.

B. Maryland Community-Energy Generating Facilities Pilot Program

Maryland's H.B. 1128, concerning Community-Energy Generating Facilities, is very similar to the District's Community Renewables Energy Act. The first major distinction is that the Maryland bill establishes a pilot program that terminates after three years,[88] whereas the District bill would create a permanent net metering program. H.B. 1128 also restricts the possible types of distributed generation facilities to those utilizing biomass, solar, fuel cells, wind, or closed-conduit hydro to generate power.[89] The generation facility's capacity cannot exceed two megawatts.[90] These provisions unnecessarily restrict the fuel source and size options for generation facilities, limiting the opportunities for projects.

H.B. 1128 has some beneficial provisions that the District and Virginia should consider incorporating into their own legislation. For instance, H.B. 1128 provides that, after credits have been carried forward on a subscriber's bill for twelve months, the utility is required to compensate the subscriber for the credits at a value "equal to the generation or commodity portion of the rate" that the utility would have charged the subscriber for the energy.[91] This provides another financial incentive for development of distributed generation, and should be considered as a possible alternative to the D.C. bill's credit-distributing mechanism.

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[87] *Id.*
[88] H.B. 1128, 2013 Leg., 433d Sess. (Md. 2013).
[89] *Id.*
[90] *Id.*
[91] *Id.*

H.B. 1128 also states that distributed generation's benefits to the main power grid—including reductions in line losses and transmission infrastructure maintenance—should be calculated and factored into the credit received by subscribers.[92] The bill also makes explicit that third parties may finance and build the generating facility, in addition to owning and operating the facility.[93] Virginia and the District should consider a similar means of compensating subscribers for the societal benefits of distributed generation and expanding the permissible roles of third parties in their community or virtual net metering legislation.

VI. Conclusion

Community and virtual net metering are crucial to overcoming many of the barriers preventing both residents and businesses from having access to distributed generation facilities and participating in net metering. These barriers include high up-front capital costs, property ownership problems, and property that is not well situated for distributed generation. Distributed generation has many benefits for both customers and society generally. All three jurisdictions have expressed a desire to promote development of distributed generation utilizing renewable resources, and the solution put forth in this paper does not require any significant expenditure of government funds. Virginia, Maryland, and the District of Columbia should all enact legislation similar to the District's Community Renewables Energy Act, permitting community and virtual net metering arrangements.

Although their legislation should be based on the District's Act, the states should ensure that their legislation maximizes the financial viability of community and net metering facilities by reducing the administrative overhead, not charging customers transmission and distribution

[92] *Id.*
[93] *Id.*

fees, and ensuring that renewable energy credits remain with the customer or owners of the generation facility. The legislation should empower third parties to finance and build the generation facility to maximize the flexibility of permissible arrangements. Finally, Virginia and the District should consider incorporating some provisions of the Maryland bill, including the credit compensation mechanism and the mechanism for valuing the benefits of distributed generation for the main power grid.