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# The Right to Self-Generate as a Grid-Connected Customer

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## THE RIGHT TO SELF-GENERATE AS A GRID-CONNECTED CUSTOMER

*Jon Wellinghoff and Steven Weissman\**

**Synopsis:** In those areas of the country where competitive retail access to electric service does not exist, two powerful entities are engaged in a struggle to determine who has the right to supply all or a portion of the electric energy services necessary to meet a consumer's needs.<sup>1</sup> On one side are the traditional monopoly retail distribution utilities that have provided such services for over 100 years. On the other side are consumers themselves and independent third-party providers of distributed generation and storage systems who supply those consumers with the means to generate their own power. The struggle may involve efforts by utilities to preclude third-party providers from selling to individual consumers, or to ensure that neighbors cannot work together to meet their common electricity needs. It can involve efforts to discourage self-generation by imposing steep customer charges on the bills of solar customers, or the insistence that the full output of a customer-sited generating system be fed into the grid, rather than used onsite. If there is a right to self-generate, then such tactics impinge on that right to a greater or lesser extent. This paper examines the legal issues behind this struggle and the relative rights of consumers to self-generate while continuing to be interconnected to a utility distribution system grid.

Property owners in the United States have the right to generate electricity onsite, for their own use. This understanding is so fundamental that legislatures have not bothered to spell it out.<sup>2</sup> But the right does exist in the law, and it derives both from common law principles concerning the beneficial use of property and from federal and state laws that imply that property owners can self-generate through encouragement, protection, or facilitation of such activity.

As the cost of onsite solar photovoltaic (PV) electric generating systems has plummeted and deployment of residential and commercial systems has accelerated, thus decreasing revenue for state-sanctioned electric distribution utilities, there has been increased pressure to constrain onsite, grid-connected

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1. Full competitive retail customer choice for electric energy services is only currently available in thirteen states and the District of Columbia. Seven other states have some level of retail customer choice with restrictions. Thirty states currently require consumers to purchase electric energy services from a monopoly distribution utility. See, U.S. Energy Information Administration at [http://www.eia.gov/electricity/policies/restructuring/restructure\\_elect.html](http://www.eia.gov/electricity/policies/restructuring/restructure_elect.html).

2. As one legal scholar explains, “[p]roperty is a core concept in both constitutional and private law adjudication, yet it is neither defined in the Constitution nor discussed frequently or in any detail by the Court’s Justices.” Hanoch Dagan, *The Craft of Property*, 91 CALIF. L. REV. 1517, 1526 (2003).

generation.<sup>3</sup> Thus the right to self-generate is becoming increasingly important as this tension between consumers' access to distributed generation and distribution utilities aversion to increased levels of customer owned generation increases. State and local governments may have full authority to impose reasonable conditions on grid-connected generation when necessary to protect public health and safety. However, such authority does not justify either prohibiting these installations, or unreasonably restricting the customer's ability to use the electricity generated by those systems to fully offset energy requirements on one's own property. We will describe the legal and historical context for a right to grid-connected self-generation and consider the benefits of making that right more explicit.

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## I. INTRODUCTION

In the early dawn of the evolution of our species a new and useful tool to provide us with an array of services was discovered—fire. Soon we learned to tame it and control it for our collective tribal purposes. Once a source of fire was

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3. In 2014, a new solar PV system was being installed on a residential or commercial property in the U.S. every 2.5 minutes. *Solar Energy Data*, SOLAR ENERGY INDUS. ASS'N, <http://www.seia.org/research-resources/solar-industry-data> (last visited Sept. 5, 2015); Various states have experienced efforts to water down net metering laws and to reduce incentives for distributed PV systems through use legislation or regulatory restrictions. For examples from Arizona, Florida, Kansas, Massachusetts, North Carolina, South Carolina, Washington, and Virginia, *see generally Net Metering*, ENERGY & POLICY INST., [http://www.energyandpolicy.org/net\\_metering](http://www.energyandpolicy.org/net_metering) (last visited Feb. 24, 2015).

found, someone would then transport the smoldering remnants of that original source to the tribal encampment. There, its energy would be used for multiple beneficial purposes including heating, light, cooking, defense from wild animals, and tool making. The tribe did not need or want the “fire” per se, but instead the services that it could provide.

In order to oversee and maintain this community source of energy, the role of fire-keeper was created. This person or group was tasked with obtaining the means to create fire for the tribe near its home camp, and maintaining the fire once ignited at the community hearth. Fire-keepers were the central, reliable source of this critical element for the tribe’s security and well-being.

Gradually, methods were devised to create fire locally, without the need for transportation of coals or embers from long distances. Flint could be struck against iron to produce sparks, bow drills created friction and heat to ignite tinder, and once glass was produced, lenses could be used to focus the sun to start a fire. The wide availability of the skills and materials need to start a fire lessened the importance of the ancient role of fire-keeper.

Finally, with the advent of the first self-igniting chemical match in 1805, the energy of fire could be easily available to anyone in their home or business, or wherever they chose. The ability and right to use this source of energy was no longer limited to those with the power to create it and distribute it.

No one would suggest that an individual lacks the legal right to start and maintain a fire in their own house in a stove for cooking or in a fireplace for heating and aesthetic enjoyment. Further, it is commonly understood that property owners can use fire on their premises for any purpose that conforms to applicable laws, regulations, and codes regarding health and safety.

Fire is one way to harness energy for useful purposes. Electricity is another. Unlike fire though, the harnessing and delivery of this useful societal tool eluded us until the mid-eighteenth century. It was then that the mechanism for electrical generation and the invention of end-use applications, such as electric lighting, were developed and commercialized. To economically generate, deliver, and use this new energy source, a system of centrally located electric generation stations was built, primarily fueled by coal or the current of rivers. Later, oil, gas, and nuclear fuel were added to the mix. From those central electric generating plants, transmission lines conducted power toward a place of demand where voltage was eventually stepped down again to the level used in our homes and businesses.

Electricity, as commonly delivered today, could be considered analogous to the coals transported by our ancestors, from encampment to encampment, to provide energy to all members of the tribe. And there is still a “fire-keeper” for electricity—the retail distribution utility—charged with the responsibility to reliably protect the “fire source” and provide it to all members of the community. It delivers electricity to us, and owns and maintains the means to do so. The local electric distribution utility is typically given the governmental imprimatur of a “monopoly franchise.” This exclusive right to a monopoly franchise or service territory carries with it an obligation to invest in and reliably provide electric service to all customers within the service territory. Unlike the case of the fire-keeper, these obligations on the part of the utility also include the right for the utility to charge and receive from its customers full compensation (expenses, including investment, plus a regulatory determined return or profit level) through

a rate tariff or series of tariffs established and authorized by the state utility regulator. However, this right is limited by the requirement that the monopoly utility provides service at the “lowest feasible cost,” and takes advantage of “all available cost savings opportunities.”<sup>4</sup> This bundle of rights, obligations, and compensation is referred to as the “regulatory compact” or cost-of-service rate regulation.

Just as the invention of the match democratized access to fire in 1805, today’s consumers are seeing technological and economic advances which increasingly enable them to enjoy the energy services provided by electricity independent of a “fire keeper.”<sup>5</sup> Consumers now have access to many diverse and increasingly cost-effective means to produce electricity on their own property to meet their own needs, including micro turbines, fuel cells, gas and diesel generators, and one of the fastest growing sources of distributed electric production—solar PV systems.<sup>6</sup> That access and the rapid spread of the deployment of solar PV systems is challenging the traditional notions of a utility franchise to the extent that some utilities are questioning the ongoing viability of the traditional utility business model, pushing back with proposals for fees on customers who chose to “go solar.”<sup>7</sup>

Thus legally establishing the right to self-generate, in the face of such utility opposition, is becoming an increasingly important question and potentially a tool for consumers to use to stave off utility challenges to the use of distributed generation. This question increases in importance because, especially as to residential rooftop solar, there is an ever-increasing effort on the part of retail electric distribution utilities to throw up an array of barriers to continued deployment of those residential solar systems. Such barriers take the form of interconnection delays, connection fees, monthly demand fees, monthly fixed charges, and other “creative” ratemaking proposals. Two of the most egregious examples of local utilities instituting practices to discourage consumer self-generation are: (1) the average interconnection times for Potomac Electric Power Company in Maryland to connect a residential solar system—seventy-six days compared to the national average of twenty five days, and (2) Salt River Project unilaterally instituting a demand charge on new residential solar customer increasing the average new solar customer’s bill by fifty dollars per month.<sup>8</sup>

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4. Scott Hempling, *What “Regulatory Compact”?* SCOTT HEMPLING LAW (Mar. 2015), <http://www.scotthemplinglaw.com/essays/what-regulatory-compact>.

5. The cost to the consumer for producing electricity from a solar PV system is rapidly reaching parity with the cost of purchasing electricity at retail from a local electric distribution company. It has already reached parity in Hawaii. For an in depth analysis, see generally *The Economics of Grid Defections: When and Where Distributed Solar Generation Plus Storage Competes with Traditional Utility Service*, ROCKY MOUNTAIN INST. (Feb. 2014), [http://www.rmi.org/electricity\\_grid\\_defection](http://www.rmi.org/electricity_grid_defection).

6. Non-utility scale residential and commercial solar PV system installations have grown at an average annual rate of 70% per year from 2000-2013. SOLAR ENERGY INDUS. ASS’N, *supra* note 3, *Solar Market Insight Report 2013*.

7. See generally Elisabeth Graffy & Steven Kihm, *Does Disruptive Competition Mean a Death Spiral for Electric Utilities?*, 35 ENERGY L.J. 1 (2014); but see David Raskin, *Getting Distributed Generation Right: A Response to ‘Does Disruptive Competition Mean a Death Spiral for Electric Utilities?’*, 35 ENERGY L.J. 263 (2014).

8. Julia Pyper, *PEPCo Maryland Found to Have the Slowest Interconnection Times in the Nation*, GREENTECH MEDIA (July 25, 2015), <http://www.greentechmedia.com/articles/read/pepco-maryland-found-to>

Although these geographically disparate examples are extreme, they represent the breadth of the current utility effort against consumer self-generation. The availability and reliability of fire became distributed and local. So soon will be the availability and reliability of electricity service.<sup>9</sup>

This is not to suggest that we do away with the retail distribution utility.<sup>10</sup> It is only to frame the legal question to be investigated by this paper: Does an individual have the legal right to self-generate electricity on his own property for production of energy services for his own use while still being connected to the local electric distribution utility system? We explore that question in the sections that follow. We would also make clear, however, that this paper will not address the issue of selling or disposing of excess energy produced from a consumer's distributed system or the correct pricing of that excess energy. That issue, often referred to by the term "net energy metering," requires a complex analysis of the value of distributed generation that is more of an engineering and economic analysis than a legal question. Those questions are beyond the scope of this investigation.

## II. COMMON LAW PROPERTY PRINCIPLES SUPPORT A LEGAL RIGHT TO SELF-GENERATE

Common law property principles support the view that a property owner has a legal right to generate his own electricity because doing so falls within the owner's right to use and enjoy his property.<sup>11</sup> The term "property" encompasses more than a physical thing and is frequently described as a collection of substantive rights, privileges, powers, and immunities.<sup>12</sup> At the core of this bundle

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have-the-slowest-solar-interconnection-times-in-the; Ryan Randazzo, *SRP Board Oks rate hike, new fee for solar customers*, THE ARIZONA REPUBLIC (Feb. 27, 2015), <http://www.azcentral.com/story/money/business/2015/02/26/srp-board-oks-rate-hike-new-fees-solar-customers/24086473/>.

9. Like provision of fire by the fire-keeper, we consider electricity to be service rather than a good and thus governed by Common Law rather than the UCC. For a full discussion of that subject see generally Steven Ferrey, *Inverting Choice of Law in the Wired Universe: Thermodynamics, Mass, and Energy*, 45 WM. & MARY L. REV. 1839 (2004), <http://scholarship.law.wm.edu/wmlr/vol45/iss5/2>.

10. Although, for a discussion of alternative models for an independent distribution system operator, see generally James Tong & Jon Wellinghoff, *Rooftop Parity*, PUBLIC UTILITIES FORTNIGHTLY (Aug. 2014), at 18.

11. See, e.g., *Buchanan v. Warley*, 245 U.S. 60, 74 (1917) (stating "[p]roperty is more than the mere thing which a person owns. It is elementary that it includes the right to acquire, use, and dispose of it. The Constitution protects these essential attributes of property."); 2700 Irving Park Bldg. Corp. v. City of Chicago, 69 N.E.2d 827, 832 (Ill. 1946) (stating "[t]he right of every owner of property to use it in his own way and for his own purposes existed before the adoption of the constitution, and is guaranteed by that instrument"); see also BLACK'S LAW DICTIONARY 1232 (7th ed. 1999) (defining property as "[t]he right to possess, use, and enjoy a determinate thing").

12. *Liddick v. City of Council Bluffs*, 5 N.W.2d 361, 372 (Iowa 1942) (citing JOHN LEWIS, EMINENT DOMAIN 41 (3d ed. 1888) "property is not the corporeal thing itself of which it is predicated, but certain rights in or over the thing."); Dagan, *supra* note 2, at 1519 ("Property is frequently analyzed as a bulwark of individual freedom and independence; some holdings are even regarded as constitutive components of personal identity. Property also concerns the efficient (or inefficient) allocation of resources, and is thus a matter of aggregate social welfare (or utility). Finally, because property allocates claims to various scarce resources in society, property must be about distribution, as well as about our conceptions of community and social responsibility.").

of rights are three key expectations: (1) the right to possess to the exclusion of others, (2) the right to use and enjoy, and (3) the right to dispose.<sup>13</sup>

Since the country's early years, the U.S. Supreme Court has recognized the importance of property rights as defined in English common law. In the oft-cited case of *Munn v. Illinois*, the Court wrestled with a situation where an activity that might otherwise be private becomes one that is clothed with a public interest and, therefore, may be subject to regulation.<sup>14</sup> The Court cited Lord Chief Justice Hale who, two hundred years earlier, distinguished activities that are private in nature from similar activities that take on a public posture. In doing so, Lord Hale acknowledged the breadth of rights attached to the property owner. The property owner "may make a ferry for his own use or the use of his family," and then, "a man for his own private advantage, may, in a port or town, set up a wharf or crane, . . . for he doth no more than is lawful for any man to do, viz., makes the most of his own. . . ."<sup>15</sup> The Court then cites language from a decision by Lord Ellenborough, endorsing Lord Hale's interpretation of rights in which Lord Ellenborough states, "[t]here is no doubt that the general principle is favored, both in law and justice, that every man may fix what price he pleases upon his own property, or the uses of it. . . ."<sup>16</sup>

The right to the use and enjoyment of one's property has continued to be an essential characteristic of property law, informing numerous areas of property law such as laws on covenants and zoning. Courts have consistently described the right to property as encompassing a corresponding right resembling liberty, namely the free use of property.<sup>17</sup> The resulting law of property disfavors arbitrary and/or frivolous use restrictions.<sup>18</sup> In the case of zoning laws, restrictions must be necessary for the prevention of harm to other properties or for the promotion of

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13. *Gen. Motors Corp.*, 323 U.S. 373, 378 (1945) (holding property within the Fifth Amendment "denote[s] the group of rights inhering in the citizen's relation to the physical thing, as the right to possess, use and dispose of it"); William Blackstone, in his classification of fundamental rights, says: "The third absolute right inherent in every Englishman is that of property, which consists in the free use, enjoyment and disposal of all his acquisitions without any control or diminution, save only by the law of the land." 1 William Blackstone, *Commentaries* \*138; 2 William Blackstone, *Commentaries* \*2, \*15.

14. *Munn v. Ill.*, 94 U.S. 113, 126 (1877).

15. *Id.* at 126-27, 150.

16. *Id.* at 127.

17. *Thornburg v. Port of Portland*, 376 P.2d 100, 105 (Or. 1962) (stating "the only 'property' right of the possessor of land which has any value is his ability to use and enjoy his land"); *James S. Holden Co. v. Connor*, 241 N.W. 915, 919 (Mich. 1932) (stating "[t]his use, or the right to control it with reference to its use, constitutes, in fact, all that is beneficial in ownership, except the right to dispose of it; and this latter right or incident would be rendered barren and worthless, stripped of the right to the use."); *Cresskill v. Dumont*, 100 A.2d 182, 186 (N.J. Super. Ct. Law Div. 1953) (citing *State Bank & Trust Co. v. Village of Wilmette*, 193 N.E. 131, 133 (Ill. 1934), "[t]he privilege of every citizen to use his property according to his own will is both a liberty and a property right.").

18. *See, e.g., Cresskill*, 100 A.2d at 186 ("Liberty includes not only freedom from servitude and restraint, but also the right of every man to be free in the use of his powers and faculties to pursue such occupation or business as he may choose and to use his property in his own way and for his own purposes, subject only to the restraint necessary to secure the common welfare"); *Cowan v. Buffalo*, 247 A.D. 591, 593 (N.Y. App. Div. 1936) (stating "[t]he right to use and enjoy one's property is safeguarded by both the Federal and State Constitutions, and any law which unjustly interferes therewith deprives the owner of its enjoyment, and is as much a violation of the fundamental law of the land as the actual physical taking of the property would be").

the general welfare, and they must be “reasonable,’ and impartial in treatment.”<sup>19</sup> Moreover, many courts construe these laws narrowly in favor of property owners and the free use of land, finding these restrictions to be “in derogation of the common law and deprive the property owner of uses to which the owner would otherwise be entitled.”<sup>20</sup> Similarly, courts have found that restrictive covenant laws infringe upon the right to property, and thus, courts will not extend their application beyond their expressed terms and resolve conflicts “in favor of the free use of land.”<sup>21</sup>

While these principles, which have been carried forward to current times, support the notion that a private use such as self-generation is within the appropriate discretion of the property owner, the right to use and enjoy property is not unlimited.<sup>22</sup> In common law, property owners had a broad right to make reasonable use of their property, provided that such use does not endanger public health or otherwise create a public nuisance.<sup>23</sup> On the one hand, use and enjoyment is a principle of autonomy; a property owner’s expectation includes the right to use and enjoy one’s property as they please without disturbance.<sup>24</sup> Thus,

19. See, e.g., *Udell v. Haas*, 235 N.E.2d 897, 902 (N.Y. 1968) (holding that zoning ordinances cannot be arbitrary and rather must promote the general welfare in accordance with a comprehensive general plan if they are to be upheld as valid exercises of police power restricting real property use and development); *Cresskill*, 100 A.2d at 190 (stating zoning laws “can only prohibit a use which would be harmful to other property,” and furthermore, “. . . in order to be valid, zoning restrictions and limitations must have a tendency to promote the general welfare”); see also *Schad v. Mt. Ephraim*, 452 U.S. 61, 68 (1981) (holding that “the zoning power is not infinite and unchallengeable” and so it cannot unreasonably infringe upon protected liberties, but rather it “must be exercised within constitutional limits” (citing *Moore v. East Cleveland*, 431 U.S. 494, 514 (1977))); *Udell*, 235 N.E.2d at 902.

20. See, e.g., *Cleveland Clinic Found. v. Bd. of Zoning Appeals*, 23 N.E.3d 1161, 1169 (Ohio 2014); *SNPCO, Inc. v. City of Jefferson City*, 363 S.W.3d 467, 474 (Tenn. 2012); *Dewey Beach Enters. v. Bd. of Adjustment of Dewey Beach*, 1 A.3d 305, 310 (Del. 2009); *Bass Custom Signs, LLC v. Lafayette City Parish Consol. Gov’t*, 149 So. 3d 965, 967 (La. Ct. App. 2014); *Noble Parking v. Centergy One Associates, L.L.C.*, 756 S.E.2d 691, 695 (Ga. Ct. App. 2014); *Fillion v. Hannon*, 943 A.2d 528, 533 (Conn. App. Ct. 2008); *Blue Ridge Co.*, 655 S.E.2d 843, 848 (N.C. 2008); *Rogers v. W. Valley City*, 142 P.3d 554, 556 (Utah Ct. App. 2006).

21. See, e.g., *Brown v. Perkins*, 923 P.2d 434, 437-38. (Idaho 1996); *Providence Square Assoc’s, L.L.C. v. G.D.F., Inc.*, 211 F.3d 846, 850 (4th Cir. 2000); *Kinard v. Richardson*, 754 S.E.2d 888, 894 (S.C. Ct. App. 2014); *Dunne v. Shenandoah Homeowners Ass’n*, 12 P.3d 340, 345 (Colo. App. 2000) (citing *Nelson v. Farr*, 354 P.2d 163, 165 (Colo. 1960)).

22. Blackstone qualifies his definition of property explaining that a property owner possesses property rights “without any control or diminution save only by the laws of the land,” and therefore “an owner’s power over his property is not absolute, that is, there are some limits as to how a property owner can use his property.” Blackstone, *supra* note 13, at \*138; Blackstone, *supra* note 13, at \*2, \*15.

23. See, e.g., *Munn v. Ill.*, 94 U.S. 113, 124 (1877) (holding that the government may not “control [the exercise by citizens of] rights which are purely and exclusively private,” but may establish “laws requiring each citizen to so conduct himself, and to so use his property, as not unnecessarily to injure another”); *Harrington v. Board of Alderman*, 38 A. 1, 2 (R.I. 1897) (citing that “[r]ights of property like all other social and conventional rights, are subject to such reasonable limitations in their enjoyment as shall prevent them from being injurious”); *Commonwealth v. Alger*, 61 Mass. (7 Cush.) 53, 85 (1851); *Nourse v. Russellville*, 78 S.W.2d 761, 764 (Ky. 1935) (finding that the owner of property must not use that property so as to create a public nuisance).

24. RESTATEMENT (SECOND) OF TORTS § 822 cmt. g (“An owner’s use of his own land will not create liability unless his use causes substantial interference with another’s enjoyment of his property,” as “the law of torts does not attempt to impose liability or shift the loss in every case in which one person’s conduct has some detrimental effect on another.”); *Spann v. City of Dallas*, 235 S.W. 513, 515 (Tex. 1921) (stating “[t]o secure their property was one of the great ends for which men entered into society. The right to acquire and own property, and to deal with it and use it as the owner chooses, so long as the use harms nobody, is a natural right.

a property owner has the right to manage his electricity load through actions such as installing and running various kinds of equipment: solar panels, small wind turbines, fuel cells, diesel powered back-up generators to generate electricity, batteries, and other technologies to store electric potential for future use, and energy efficiency measures to conserve electricity usage. On the other hand, he may not make an unreasonable use that injures a neighbor's comparative expectation of use and enjoyment.<sup>25</sup>

Accordingly, courts can and have restricted owners' use of their property to self-supply public services, but only where necessary to safeguard public health.<sup>26</sup> In various states, the courts have upheld legislation preventing individuals from self-supplying water and sewerage services, on the basis that such supply poses significant health risks.<sup>27</sup> For example, in *Sanitation District No. 1 of Jefferson County v. Campbell*, the court held that the property owners failed to show that the public health did not require them to discontinue their private sewage disposal methods and to connect with the public sewer system.<sup>28</sup> The court noted that while it seemed that properly operated private septic tanks could provide a sanitary disposal system, the publicly maintained sewage system of the whole community was "undoubtedly better at doing away with potential as well as actual health menaces."<sup>29</sup> The court explained that "[t]he community is to be considered as a whole in the matter of preservation of the health of all inhabitants, for a failure by a few to conform to sanitary measures may inflict ill health and death upon many."<sup>30</sup>

However, the ability of government to place reasonable restrictions on the use of property in the name of public health and safety does not create limitless authority. For instance, some cases underscore the distinction between requiring property owners to obtain hookups to domestic water supplies and prohibiting use of other water sources. Within the bounds of an individual's constitutional right to privacy, an individual can drink water from any source he chooses, including

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It does not owe its origin to constitutions. It existed before them. It is a part of the citizen's natural liberty—an expression of his freedom, guaranteed as inviolate by every American Bill of Rights.").

25. *Lucas v. S.C. Coastal Council*, 505 U.S. 1003, 1031-32 (1992) (holding that a state's basic nuisance law defines the scope of property rights, and so regulation within the scope of the state's power to control nuisances does not require payment of compensation); *Dumm v. Dahl*, 913 A.2d 863, 867 (Pa. Super. Ct. 2006) (citing the Restatement of Torts (second) § 822 which provides a private citizen is liable in nuisance for an unreasonable and intentional invasion of the private use and enjoyment of another's land).

26. *See, e.g., Renne v. Township of Waterford*, 73 Mich. App. 685, 252 N.W.2d 842, 846 (Mich. Ct. App. 1977) (upholding a sewer connection requirement and a ban on the use of a functioning septic tank); *Weber City Sanitation Comm'n v. Craft*, 196 Va. 1140, 87 S.E.2d 153 (1955) (upholding a mandatory water connection and well disconnection ordinance).

27. *See e.g., Harrington v. Board of Aldermen*, 38 A. 1 (R.I. 1897) (upholding state legislation prohibiting the self-supply of sewerage services as a valid exercise of the state's police power aimed at preventing injury "to the citizens at large"); *Nourse*, 78 S.W.2d at 764 (finding that the state may, in exercise of its police power, prohibit property owners from disposing of their own sewage to prevent harm "to the citizens generally"); *Kaul v. Chehalis*, 277 P.2d 352 (Wash. 1954) (declaring state regulation of sewage disposal to be a valid exercise of police power designed to prevent the introduction and spread of disease throughout the community); *Stern v. Halligan*, 158 F.3d 729 (3rd Cir. 1998) (concluding that the state may use its police powers to restrict property owners' use of well water so as to protect the health of "its citizenry as a whole").

28. 249 S.W.2d 767, 772 (Ky. 1952).

29. *Id.* at 772.

30. *Id.*

water from a well on his property.<sup>31</sup> An onsite generating source that is to be used in addition to power derived from the grid should receive similar protection. There appears no legal requirement to consume a specified level of electricity from the grid once interconnected. Nor does there appear to be a requirement to be interconnected to the local electric distribution grid, even if one is available.<sup>32</sup>

Self-generation of electricity does not raise the same health and safety concerns as the self-supply of public services like water and sewerage. Whereas self-supplying these other public services can endanger the health and safety of the entire community, the risk associated with self-generation is to utility repair crews and other emergency workers, who could be injured if distributed generating facilities back-feed power to the electric system during outages—a situation known as “islanding.”<sup>33</sup> This risk can be effectively negated by using automatic anti-islanding or disconnect devices which separate the operation of distributed generating facilities from those of the larger electric grid during islanding conditions.<sup>34</sup> So, despite the potential seriousness of the risk, it is relatively isolated and can be easily contained and mitigated. Sewer and water risks are potentially much more pervasive, and mitigation measures need to be widely deployed throughout the delivery or collection system. Self-generation risks can be contained and mitigated at the source and thus isolated relatively inexpensively and without general community intervention.

Furthermore, courts have upheld the self-generation of electricity as a viable use of one’s property in the context of nuisance challenges. In *Rassier v. Houim*, the Court found that the private use of a wind generator in a residential area did not qualify as a private nuisance.<sup>35</sup> Other cases have found that electricity-generation that is lawful is not per se a nuisance, and so they engage in a balancing test to determine whether the activity in question was a nuisance on a case-by-case basis.<sup>36</sup> While there are no laws explicitly providing private land owners the right

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31. *Town of Ennis v. Stewart*, 807 P.2d 179, 182 (Mont. 1991).

32. A Florida city recently took a city homeowner to court to require that she connect to the local electric grid. But a special magistrate ruled the homeowner was not guilty of having an improper electrical system even though she was not interconnected to the local electric grid. George Solis, *Cape Woman Living “Off the Grid” Challenged by City*, NBC-2, (Feb. 25, 2014), <http://www.nbc-2.com/story/24790572/cape-woman-living-of-the-grid-challenged-by-city#.VJ9N-cAAA>.

33. Islanding refers to the condition of a local electric generator (often referred to as distributed generation or “DG”) that continues to feed the local circuit with power, even after power from the surrounding electric utility grid has been cut off. Islanding can pose a dangerous threat to utility workers, who may not realize that a circuit is still “live” while attempting to work on the line. M. Hanif, M. Basu and K. Gaughan, *A Discussion of Anti-islanding Protection Schemes Incorporated in a Inverter Based DG*, International Conference on Environment and Electrical Engineering (EEEIC) 2011, 10th International, 8-11 May 2011.

34. Distributed generators must detect islanding and immediately disconnect in milliseconds to stop feeding the surrounding utility lines with power and prevent injury. This is known as anti-islanding. A grid-tied DG system is required by law to have a gridtie inverter with an anti-islanding function, which senses when a power outage occurs and shuts itself off. See e.g., Muh. Imran Hamid & Makbul Anwari, *Single Phase Photovoltaic-Inverter Operation Characteristic in Distributed Generation System*, in DISTRIBUTED GENERATION 145, 147, 215 (D.N. Gaonkar ed., 2010), available at <http://www.intechopen.com/books/distributed-generation>.

35. 488 N.W.2d 635 (N.D. 1992) (holding that the wind generator did not unreasonably interfere with the plaintiff’s enjoyment of their land); *Rankin v. FPL Energy, LLC*, 266 S.W.3d 506 (Tex. App. 2008).

36. *Rankin v. FPL Energy, LLC*, 266 S.W.3d 506 (Tex. App. 2008) (finding a commercial wind farm operation was not a nuisance because the operation was not in violation of any laws, and so, the minimal harm of an aesthetic nuisance alone was not substantially interfering with the use and enjoyment of the Plaintiff’s

to self-generate, these cases suggest that the generation of electricity on private property to self-supply public services is within a property owner's right to the use and enjoyment of their land, so long as it is lawful (not in violation of an existing law such as noise ordinances, etc.), or unreasonably interfering with the use and enjoyment of another's land.

### III. CONSTITUTIONAL LAW PROTECTING THE RIGHT TO USE AND ENJOY SUPPORT A LEGAL RIGHT TO SELF-GENERATE

Neither the U.S. Constitution nor any state constitution expressly establishes a person's right to generate electricity. However, such a right is consistent with the right to use and enjoy one's property. If government regulation interferes with self-generation, a property owner may be able to successfully challenge such interference under the Fifth Amendment Takings Clause of the United States Constitution.

Beyond the protection of health and safety, government only has the authority to regulate the conduct of private activity once it becomes clothed in the public interest.<sup>37</sup> Businesses become clothed with a public interest when "the owner by devoting his business to the public use, in effect grants the public an interest in that use and subjects himself to public regulation to the extent of that interest although the property continues to belong to its private owner and to be entitled to protection accordingly."<sup>38</sup> But, "one does not devote one's property or business to the public use or clothe it with a public interest merely because one makes commodities for, and sells to, the public."<sup>39</sup> Furthermore, different types of government regulations may be more or less appropriate depending on the extent to which the activity in question is a matter of public interest: the police power to regulate business or to require a license "may be quite distinct from the power to fix prices," since "the latter, ordinarily, does not exist in respect of merely private property or business."<sup>40</sup> Arguably, small-scale self-generation for personal use, or even when excess power is sold back to the grid through net metering sales, would

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property to outweigh the benefits of the wind farm's operation); *Burch v. NedPower Mount Storm, LLC*, 647 S.E.2d 879, 887 (W. Va. 2007) (stating that in order to determine a wind farm is a private nuisance, the court must weigh the gravity of the harm (such as noise and aesthetic impacts) and the social value of the electric generating activity alleged to cause the harm. The court must find the harm to be unreasonable).

37. *Munn v. Ill.*, 94 U.S. 113, 126, 129 (1877) (holding that when private property is devoted to a public use, it is subject to public regulation, including regulation preventing unreasonable rates: "when private property is affected with a public interest it ceases to be *juris privati* only; and, in case of its dedication to such a purpose as this, the owners cannot take arbitrary and excessive duties, but the duties must be reasonable.").

38. *Wolff Packing Co. v. Court of Indus. Relations*, 262 U.S. 522, 535 (1923); *Munn*, 94 U.S. at 131-32.

39. *Wolff Packing Co.*, 262 U.S. at 537 (stating "[a]n ordinary producer, manufacturer, or shopkeeper may sell or not sell as he likes, and while this feature does not necessarily exclude businesses from the class clothed with a public interest, it usually distinguishes private from quasi-public occupations."); *United States v. Freight Ass'n*, 166 U.S. 290, 320 (1897); *Terminal Cab Co. v. Kutz*, 241 U.S. 252, 256 (1916).

40. *Tyson & Brother, United Theatre Ticket Offices, Inc. v. Banton*, 273 U.S. 418, 430 (1927) (holding that quasi-public businesses are not equivalents of those "affected with a public interest," as that phrase is used in the decisions of this court as the basis for legislative regulation of prices," and such "power is not only a more definite and serious invasion of the rights of property and the freedom of contract, but its exercise cannot always be justified by circumstances which have been held to justify legislative regulation of the manner in which a business shall be carried on.") (citing *Chesapeake & Potomac Tel. Co. v. Manning*, 186 U.S. 238, 246 (1902)).

not be an activity clothed with the public interest, and therefore should not be subject to government regulation or at least not rate regulation.

In the alternative, if the extent and scale of self-generated electricity sold to third parties, etc., implicates the public interest, government regulation of rates would still be subject to limitation.<sup>41</sup> While businesses clothed in the public interest are subject to rate regulation prescribed by the state, these rates must be “reasonable.”<sup>42</sup> The Takings Clause requires the government to pay just compensation when government regulation imposes such burdens on property that it is a regulatory taking, including those regulations that deny an owner economically viable use of his or her land.<sup>43</sup> In a number of contexts, courts have found unreasonable rates to equate to regulatory takings, requiring just compensation.<sup>44</sup> Determinations of reasonableness can involve consideration of various factors, and ultimately the chosen methods used to determine rates receive deference from courts “so long as the end result is fair . . . .”<sup>45</sup> In *Smyth v. Ames*, the Court established the constitutional standard that a “utility is entitled to a fair rate of return on its property,” but this is just one factor of concern, and fair rates of return may differ depending on the circumstances.<sup>46</sup> For example, a fair rate of return for a utility to charge for its own service compared to a fair rate for the excess electricity from a self-generator may be different. Still, the concept of a fair rate of return, considering the fair market value for the price of electricity,

41. *Stone v. Farmers' Loan & Trust Co.*, 116 U.S. 307 (1886) (“ . . . it is not to be inferred that this power of limitation or regulation is itself without limit. This power to regulate is not a power to destroy, and limitation is not the equivalent of confiscation. Under pretense of regulating fares and freights, the state cannot require a railroad corporation to carry persons or property without reward; neither can it do that which in law amounts to a taking of private property for public use without just compensation, or without due process of law.”).

42. *Munn*, 94 U.S. at 134 (stating “[t]he controlling fact is the power to regulate at all. If that exists, the right to establish the maximum of charge, as one of the means of regulation, is implied.”); *Tyson & Brother*, 273 U.S. at 430; *Chicago & G.T. Ry. v. Wellman*, 143 U.S. 339, 344 (1892) (holding “the legislature has power to fix rates, and the extent of judicial interference is protection against unreasonable rates.”); *Munn*, 94 U.S. at 133 (“the owner of property is entitled to a reasonable compensation for its use, even though it be clothed with a public interest. . . .”); *Chicago, M. & St. P. Ry. v. Minnesota*, 134 U.S. 418, 458 (1890) (holding that when a business is deprived the ability to charge reasonable rates for the use of its property, it is “deprived of the lawful use of its property, and thus, in substance and effect, of the property itself, without due process of law and in violation of the Constitution of the United States.”).

43. *Agins v. Tiburon*, 447 U.S. 255, 261 (1980) (finding that the deprivation of an owner’s economically viable use of his property constitutes a taking); *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393, 415 (1922); U.S. CONST. amend. V (“Nor shall private property be taken for public use, without just compensation.”) In addition, essentially every state has an analog of the Takings Clause in its own constitution. *See also* John D. Echeverria, *From a “Darkling Plain” To What?: The Regulatory Takings Issue in U.S. Law And Policy*, 30 VT. L. REV. 969 (2005). Although the Fifth Amendment initially applied only to the federal government, courts have long interpreted the Fourteenth Amendment as making the Fifth Amendment applicable to state and local government as well.

44. State laws seeking to regulate fees businesses could charge for their services have been set aside as unconstitutional when the business is not affected with the public interest. *See, e.g.*, *New State Ice Co. v. Liebmann*, 285 U.S. 262 (1932) (ice business); *Ribnik v. McBride*, 277 U.S. 350 (1928) (employment agency); *Williams v. Standard Oil Co.*, 278 U.S. 235 (1928) (retail gasoline).

45. *Federal Power Comm’n v. Hope Natural Gas Co.*, 320 U.S. 591, 601 (holding that a commission is not required to use any particular method in determining rates as long as the end result is fair: “‘fair value’ is the end product of the process of rate-making not the starting point.”).

46. *Smyth v. Ames*, 169 U.S. 466, 546 (1898); Stefan H. Krieger, *Problems for Captive Ratepayers in Nonunanimous Settlements of Public Utility Rate Cases*, 12 YALE J. ON REG. 257, 274 (1995).

should provide a baseline minimum for reasonable rate regulations. However reasonableness is determined, anything less than a reasonable rate will supply a self-generator with a takings cause of action for monetary damages equating to just compensation. This is not to engage in the net metering debate related to the appropriate credit for energy or other energy services delivered to the distribution grid beyond that energy used locally by the consumer. As indicated above, that is an engineering and economic analysis beyond the scope of this paper.

#### IV. FEDERAL LAWS THAT IMPLY A RIGHT TO SELF-GENERATE

##### A. *The Federal Public Utilities Regulatory Policy Act and Other Federal Regulations Support a Legal Right to Self-Generate*

Prior to 1978, utilities were not required to provide customer-owned generators with backup or standby power service at times when the customer generators were unavailable, and it was even unclear whether utilities were obligated to interconnect customer-owned generators to the distribution grid at all.<sup>47</sup> Without interconnection, a customer could not dispose of excess generation, and without backup service from the utility, a customer was forced either to tolerate outages or install redundant backup generation. The customer's ability to sell excess generation was further encumbered by the local electric utilities' capacity to refuse to purchase it.<sup>48</sup>

In 1978—against the backdrop of an energy crisis—Congress enacted the Public Utilities Regulatory Policy Act (PURPA).<sup>49</sup> PURPA was intended to encourage the development of new types of non-utility generation, provide for efficient use of utility facilities and resources, promote conservation, and safeguard consumers from unfair rates.<sup>50</sup> With respect to generation, PURPA focused on cogeneration (*i.e.*, combined heat and power or CHP) and certain types of small generation resources (under 80 MW), powered by renewable resources. PURPA required utilities to interconnect these qualifying cogeneration and small power production facilities (*i.e.*, Qualifying Facilities or QFs) and to sell power to them at tariffed rates on a standby basis.<sup>51</sup> PURPA also required the interconnecting utilities to purchase as much of the output of these generators as the generator-owner opted to sell, at a price equal to the particular utility's avoided cost.<sup>52</sup> Under PURPA, states have broad discretion to set avoided cost rates;

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47. See generally Scott Spiewak & Larry Weiss, *Section B: Legal Rights of Cogenerators in COGENERATION & SMALL POWER PRODUCTION MANUAL* 32, 5th ed. (1997) (“One way utilities used to deter onsite generation was to refuse to sell power to any customer which self-generated, or to make those rates so high as to make self-generation economically unattractive. Some utilities even refused to interconnect with the self-generator. PURPA sought to remedy both of these problems.”).

48. *Id.* at 132.

49. Pub. Util. Regulatory Policy Act (PURPA) of 1978, Pub. L. No. 95-617, 92 Stat. 3117.

50. *Id.* at § 101.

51. 18 C.F.R. §§ 292.303(b)-(c).

52. 18 C.F.R. § 292.303(a); PURPA, § 210(b); “Congress imposed incremental cost as a ceiling on QF rates to ensure ratepayer indifference, *i.e.*, that they would not pay any more for power because the utility purchased from a QF rather than generating the power itself or purchasing from another wholesale source.” Carolyn Elefant, *Reviewing PURPA’S Purpose: The Limits of Existing State Avoided Cost Ratemaking*

however, state methodology must comply with the parameters established by the FERC.<sup>53</sup>

The benefits a QF receives under federal law include (1) the right to *interconnect* with its host utility by paying a nondiscriminatory interconnection fee approved either by the state commission or non-regulated utility; (2) the right to *purchase* certain services from utilities; (3) the right to *sell* energy and/or capacity to its host utility; and (4) *relief* from certain state and federal *regulatory burdens*.<sup>54</sup> While a QF's right to *use* its generated power is not expressly stated in PURPA, this right is apparent in light of the foregoing four rights; indeed, the authors have found no challenge to the existence of a usage right in the statute's legislative history or in legal scholarship.<sup>55</sup> While a large QF generally has little concern regarding its right to self-generate, this is increasingly not the case for residential consumers, faced with an ever-increasing array of barriers to self-generation from rooftop solar PV systems and other forms of distributed generation. As a *Washington Post* headline recently stated, utilities are waging a campaign against rooftop solar.<sup>56</sup>

The premise here is that self-generators have the right to use the power they generate for their own needs, while maintaining the right to electric services from a host distribution utility. The small power producer generating electricity for use on his own property; who remains connected to the distribution grid has the right to purchase supplemental, maintenance, and backup power from the host utility. Of course selling excess power back to the grid through net metering laws is beneficial to this self-generator; but even if a utility's obligation to purchase power from a QF is lifted, the utility would retain its obligation to sell supplemental, back-up, standby, and maintenance power to the QF.<sup>57</sup>

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*Methodologies In Supporting Alternative Energy Development and A Proposed Path for Reform* at 5, <http://www.recycled-energy.com/images/uploads/Reviving-PURPA.pdf>.

53. 18 C.F.R. § 292.101(b)(6) (avoided cost is defined as “the incremental cost to [the] electric utility of electric energy or capacity or both which, but for the purchase from the [QF] or [QFs,] such utility would generate itself or purchase from another source.”).

54. Pub. Util. Regulatory Policy Act § 210.

55. *Id.*

56. Joby Warrick, *Utilities wage campaign against rooftop solar*, WASH. POST (March 7, 2015), [http://www.washingtonpost.com/national/health-science/utilities-sensing-threat-put-squeeze-on-booming-solar-roof-industry/2015/03/07/2d916f88-c1c9-11e4-ad5c-3b8ce89f1b89\\_story.html](http://www.washingtonpost.com/national/health-science/utilities-sensing-threat-put-squeeze-on-booming-solar-roof-industry/2015/03/07/2d916f88-c1c9-11e4-ad5c-3b8ce89f1b89_story.html).

57. The original must-purchase obligation before enactment of EPAct 2005 required the host utilities to *purchase* QF power at rates equal to the host utility's full avoided cost. Prior to EPAct 2005, states and non-regulated utilities always determined avoided costs, either by determining them administratively or through market-based methods. The new EPAct 2005 provided a new section, section 210(m), that, if certain conditions exist, can change both the must-purchase and must-sell obligations of a host electric utility. This provision requires FERC to excuse host utilities from entering into new purchase or contract obligations if there is access to a sufficiently competitive market for a QF to sell its power. Energy Policy Act of 2005, Pub. L. No. 109-58, § 1253(a), 119 Stat. 967 (as interpreted in FERC Order 688 and 18 C.F.R. pt. 292); It is important to note that the test for a utility being relieved of its mandatory obligation to sell is not the same as the test for a utility being relieved of its mandatory obligation to purchase; a utility might find that it qualifies for relief from one obligation and not another.

*B. PURPA's Regulatory and Ratemaking Standards Support a Right to Self-Generate*

PURPA set out a number of regulatory and ratemaking standards that state regulators were required to consider adopting.<sup>58</sup> Every state utility commission was required to evaluate these standards in a public proceeding and make a public decision regarding adoption.<sup>59</sup> While not overruling state law, over the years, Congress has pushed the states to consider and take positions on various issues. For example, the Energy Policy Act of 2005 amended PURPA to require that state regulatory commissions and non-regulated electric utilities consider adopting net metering policies and interconnection procedures.<sup>60</sup> Currently, forty-four states and the District of Columbia have net metering and interconnection policies in place.<sup>61</sup> It is clear, therefore, from the original language of PURPA and subsequent amendments, that Congress contemplated consumers would self-generate electricity on their own premises, and that a portion of that generation would be used for reducing on-premises loads.

Furthermore, the FERC has stated in its orders and various cases that generating facilities have the right to use on-site generation for their own “station power,” implying a legal right to self-generate.<sup>62</sup> The FERC defines station power as, “the electric energy used for the heating, lighting, air-conditioning, and office equipment needs of the buildings on a generating facility’s site, and for operating the electric equipment” located on site.<sup>63</sup> A generating facility may self-generate its station power through: “(1) on-site self-supply (from generation located “behind-the-meter”); (2) remote self-supply (from another generator owned by the same company); or (3) third-party supply.”<sup>64</sup> In *PJM Interconnection, L.L.C.*, the Commission even ruled that generators using only their own generating resources, for both on-site and remote self-supply, “may net their station power

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58. Timothy P. Dillon, Title I of PURPA—The Effect of Federal Intrusion into Regulation of Public Utilities, 21 WM. & MARY L. REV. 491, 502 (1979).

59. 16 U.S.C. § 824a-3(A).

60. Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594; EPA section 1251 required states to decide whether or not to implement net metering upon request by electric customers with eligible on-site generation. The Act defines net metering as a service to an electric consumer under which electricity generated by that consumer from an eligible on-site generating facility and delivered to local distribution facilities may be used to offset electricity provided by the utility to the consumer during the billing period. *Id.* at §1251 (amending PURPA § 111(d)(11) (1978); EPA section 1254 called for the adoption of uniform standards for distributed generation, and for Institute of Electrical and Electronic Engineers (IEEE) Standard 1547 to form the basis of states’ interconnection protocols. The Act defines “interconnection service” as “service to an electric consumer under which an on-site generating facility on the consumer’s premises shall be connected to the local distribution facilities.” 16 U.S.C. § 2621(d)(15).

61. *Net Metering Policies*, DATABASE OF STATE INCENTIVES FOR RENEWABLE ENERGY (DSIRE), <http://ncsolarcen-prod.s3.amazonaws.com/wp-content/uploads/2015/04/Net-Metering-Policies.pdf>.

62. *Calpine Corp. v. F.E.R.C.*, 702 F.3d 41, 43 (D.C. Cir. 2012); *California Indep. Sys. Operator Corp.*, 125 F.E.R.C. ¶ 61,072 (2008) (citing *PJM Interconnection, L.L.C.*, 94 F.E.R.C. ¶ 61,251 (2001); order denying rehearing and providing clarification, 95 F.E.R.C. ¶ 61,333 (2001)).

63. *Cal. Indep. Sys. Operator Corp.*, 125 F.E.R.C. ¶ 61,402 (citing *PJM Interconnection, L.L.C.*, 94 F.E.R.C. ¶ 61,889 (2001)).

64. *Id.*; *Calpine Corp.*, 702 F.3d at 43.

requirements.”<sup>65</sup> While there are questions regarding the calculation of charges, utilities can impose on generators for their use of station power. The answers to these questions rest on the foundational guarantee that generating facilities have the right to self-generate.<sup>66</sup> The question as to the appropriate costs, if any, a distribution utility should charge a customer to maintain an interconnection to the distribution grid, is an engineering and economic analysis that should be conducted in an open forum with all parties afforded due process rights to offer evidence and cross-examine witnesses.

## V. STATE LAWS THAT IMPLY A RIGHT TO SELF-GENERATE

### A. *State Solar Easements and Rights Laws Imply the Right to Generate Solar Energy*

Numerous state laws imply a state-recognized right to self-generate. State and local solar access laws, such as solar easements and solar rights laws, are intended to protect consumer’s rights to install and operate private solar-energy systems and their access to sunlight. Solar easements are the most common, with nearly half of U.S. states authorizing their creation.<sup>67</sup> A solar easement protects the rights of a solar-energy system owner to receive and capture solar energy, and ensures continued access to sunlight, by prohibiting neighboring properties from development that would restrict access to incident sunlight.<sup>68</sup> Solar rights laws have also been enacted in nearly half of the U.S. states.<sup>69</sup> These laws safeguard the right of homeowners to install solar panels on their rooftops by guaranteeing a right to sunlight and by limiting the restrictions neighborhood covenants and/or local ordinances can place on the installation of solar equipment.<sup>70</sup> Some of these laws find restrictive provisions to be void and unenforceable all together.<sup>71</sup> While

65. *PJM Interconnection, L.L.C.*, 94 F.E.R.C. ¶ 61,892.

66. *Calpine Corp.*, 702 F.3d at 43; *Fed. Power Comm’n v. S. Cal. Edison Co.*, 376 U.S. 205 (1964).

67. *Renewable Portfolio Standards (RPS) with Solar or Distributed Generation Provisions*, DATABASE OF STATE INCENTIVES FOR RENEWABLE ENERGY (DSIRE), <http://ncsolarcen-prod.s3.amazonaws.com/wp-content/uploads/2015/01/RPS-carveout-map2.pdf>.

68. *See, e.g.*, ALASKA STAT. ANN. § 34.15.145(a) (West 1980) (defining a solar easement as “[a]n easement obtained for the purpose of protecting the exposure of property to the direct rays of the sun”); CAL. CIV. CODE § 801.5(a) (West 2001) (“‘Solar easement’ means the right of receiving sunlight across real property of another for any solar energy system; OR. REV. STAT. ANN. § 105.885(1) (West 1991) (defining solar easement as “any easement, covenant or conditions designed to insure the passage of incident solar radiation, light, air or heat across the real property of another.”); UTAH CODE ANN. § 57-13-1(1) (West 1953) (defining solar easements as a right “for the purpose of ensuring adequate exposure of a solar energy system.”).

69. *Renewable Portfolio Standards (RPS) with Solar or Distributed Generation Provisions*, DATABASE OF STATE INCENTIVES FOR RENEWABLE ENERGY (DSIRE), <http://ncsolarcen-prod.s3.amazonaws.com/wp-content/uploads/2015/01/RPS-carveout-map2.pdf>.

70. *See, e.g.*, CAL. CIV. CODE § 714(a) (West 2015) (finding “any covenant, restriction, or condition contained in any deed, contract, security instrument, or other instrument affecting the transfer or sale of, or any interest in, real property, and any provision of a governing document, as defined in Section 4150 or 6552, that effectively prohibits or restricts the installation or use of a solar energy system is void and unenforceable.”); LA. REV. STAT. ANN. § 9:1255(B) (2010) (stating, “[n]o person or entity shall unreasonably restrict the right of a property owner to install or use a solar collector.”); N.M. STAT. ANN. § 3-18-32(a)-(b) (West 2007) (preventing a county or municipality from restricting the installation of a solar collector).

71. CAL. CIV. CODE § 714(a) (West 2015); N.M. STAT. ANN. §§ 3-18-32(a)-(b).

these laws vary in their provisions and effectiveness, they imply that individuals will generate solar energy and have the right to do so.

*B. Proposed State Laws Allowing Third-Party Contracting with Regard to Self-Generation Acknowledge the Right to Self-Generate*

This year, legislation introduced in Georgia and an initiative ballot measure in Florida have implied the right to self-generate rather explicitly by reducing barriers to third party contracts regarding self-generation. In Georgia, legislation was introduced in the General Assembly, which would allow property owners to contract directly with solar companies to finance and install solar panels.<sup>72</sup> Though the installation of solar panels is legal, Georgia does not currently allow third party financing, creating a financial barrier to homeowners and businesses from installing solar panels at their facilities.<sup>73</sup> In 2016, a Florida ballot initiative in support of solar installation would allow “property owners to generate solar electricity and sell it directly to other consumers presaging something like an Uber-like economy in solar energy.”<sup>74</sup> This ballot initiative would ensure that utilities do not have the exclusive right to sell electricity, allowing homeowners and businesses the ability self-generate and sell their own power.<sup>75</sup>

*C. State Net Metering Statutes Support a Right to Self-Generate*

We are aware of no state legislation that *expressly recognizes* the right of utility customers to generate their own electricity, or statements in state legislative history that recognize such a right. However, we are also aware of no state legislation that *expressly prohibits* a person from self-generating electricity. Moreover, an examination of state legislation strongly suggests that a right to self-generate can be *implied*. One could speculate that this is in large part due to the fact that the deployment of distributed generation on any wide scale is a very recent phenomenon. As of the end of 2014 over 600,000 U.S. homes and businesses had installed distributed solar and a new solar project is installed on a residence in the U.S. every 2.5 minutes.<sup>76</sup> Over 200,000 of those residential installations were completed in 2014 alone. But as recently as 2006 there were only 30,000 homes in the U.S. with solar PV systems. Thus “from 2006 to 2013, the number of homes with solar grew by more than 1,000 percent.”<sup>77</sup> It is this rapid growth in installations that is driving distribution utility concerns over distributed solar. But it is also this rapid escalation curve that has put both state legislatures and state utility commissions behind in addressing policy issues related to self-generation.

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72. Robert Marritz, *Populists push Ga., Fla. toward solar*, ELECTRICITYPOLICY.COM (Jan. 15, 2015), <http://www.electricitypolicy.com/news/populists-push-ga-,fla-toward-solar>.

73. *Id.* (this bill received bipartisan legislative backing, as well as support from a broad-based coalition of conservative and environmental groups).

74. *Id.* (an alliance of conservative business groups, environmentalists and the solar industry have rallied in support of this ballot initiative).

75. *Id.*

76. *Solar Industry Data: Solar Industry Breaks 20 GW Barrier—Grows 34% Over 2013*, SOLAR ENERGY INDUS. ASSOC. (SEIA) (Apr. 20, 2015), <http://www.seia.org/research-resources/solar-industry-data>.

77. Laura Wisland, *How Many Homes Have Rooftop Solar? The Number is Growing . . .*, UNION OF CONCERNED SCIENTISTS (Sept. 4, 2014), <http://blog.ucsusa.org/how-many-homes-have-rooftop-solar-644>.

Legislation in most states uses *facilitative* (as opposed to permissive) language when discussing the development of new generating facilities. California's legislation with respect to generation by private energy producers—defined as persons, corporations, municipalities, and public agencies generating electricity from non-conventional sources either directly or as a by-product of their own use—is a good example.<sup>78</sup> Section 2801 of the California Public Utilities Code declares that “it is . . . necessary to *encourage* private energy producers to competitively develop independent sources of . . . electric energy” (emphasis added).<sup>79</sup> The use of the word “encourage,” as opposed to “allow” or “permit,” strongly suggests that private energy producers have a pre-existing right to self-generate.<sup>80</sup>

From a practical perspective, much of the state legislation supporting the development of new generating facilities is only effective if individuals have a right to self-generate. For example, most states, supported and encouraged by PURPA, have enacted legislation requiring utilities to offer net metering to customers who generate electricity on their premises and feed it back to the distribution grid.<sup>81</sup> Net metering aims to encourage increased distributed generation by providing customers with a bill credit for electricity generated on-site, which they can use to offset the cost of electricity purchased from the utility. Although policies vary, most states allow customers with distributed generation systems to sell unused power back to the utilities for credit at full retail rates. Additionally, customers' ability to generate electricity has not been limited by any requirements to sell all of the output from the premises generation in any of the net metering statutes. These state laws and regulations imply a right to self-generate, as the aims of net metering policies can only be achieved if the net metering customers have a legal right to self-generate electricity.

Of course, state net metering laws can always be changed. Indeed, net metering legislation is currently under attack in numerous states. For example, utilities can use Minnesota's Value of Solar Tariff (VOST) now as an alternative to net metering.<sup>82</sup> Minnesota adopted the nation's first legislatively mandated and PUC-approved VOST that calculates the rate utilities should pay solar customers based on their generation mix, the environmental attributes, and the technology's ability to offset more expensive forms of generation. But Minnesota's VOST includes what is often referred to as a “buy all, sell all” arrangement between the homeowner and the utility. That is, customers seeking payments under the tariff must sell all of the electricity generated by an onsite PV system to the local electric utility rather than use the power onsite. The utility then pays the homeowner for

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78. Cal. Pub. Util. Code § 2802 (West 1978).

79. Cal. Pub. Util. Code § 2801 (West 1976).

80. See also net metering laws in Alabama, Arkansas, Florida, Georgia, Illinois, Indiana, Iowa, Louisiana, Maine, Maryland, Minnesota, Montana, Nebraska, Nevada, New Hampshire, New Mexico, New York, Ohio, Oregon, Rhode Island, Texas, Utah, and West Virginia.

81. Currently, forty-four states and Washington D.C. have net metering policies in place, and three states have utility voluntary programs only. *Net Metering Policies*, supra note 61 (for a listing and link to the state and utility provisions for net metering). Net metering policies currently vary in terms of eligible renewable energy sources, limits on system capacity for each project, limits on aggregate capacity (as a percent of a utility's peak demand), how net excess generation is handled and whether meter aggregation is permitted.

82. Minn. Stat. § 216B.164, Subd.10 (2015).

the electricity. According to the Executive Director of The Alliance for Solar Choice, “[t]his throws the customer’s right to use their own power right out the window.”<sup>83</sup> If the VOST “buy all, sell all” characterization is correct, this may constitute the most direct challenge to a consumer retaining the right to self-generate and use that generation for displacing their own load on their premises. This, most importantly, then subjects the consumer to the regulatory uncertainty of the price to be paid in the future for the energy and other services generated. Even though in Minnesota the price is set above the retail rate, the consumer is subject to administrative changes in that rate which could lower the price paid substantially below retail. This deprives the customer, who may otherwise have the right to self-generate with a one-to-one offset at the retail rate for the displacement of every kilowatt hour consumed with a kilowatt hour generated. It would also have implications for the value of distributed storage. In addition to giving utilities control over customer-sited solar by taking away a customer’s right to actually use the power he generates, critics also argue that VOSTs create hidden taxes for consumers and create market uncertainty that can hurt solar businesses.<sup>84</sup>

More recently, the rooftop solar developer, SolarCity Corp (SolarCity), filed a federal antitrust lawsuit against the Arizona utility, Salt River Project Agricultural Improvement and Power District (SRP), claiming that its newly adopted pricing plans impose financial penalties on consumers using all forms of self-generation, including rooftop solar, “in order to maintain a monopoly over retail electricity sales.”<sup>85</sup> This is an oblique, yet effective, attack on the right to self-generate in that the rates SRP has imposed on new solar consumers effectively makes the installation of residential solar uneconomical. According to the complaint, the new pricing plan would increase distribution and demand charges for utility customers who install rooftop solar by roughly \$600 or more per year, resulting in a 65% rate increase.<sup>86</sup> This is a marked difference from the average 3.9% rate increase for customers who do not install rooftop solar.<sup>87</sup> SolarCity’s complaint asserts the pricing plan is effectively maintaining SRP’s monopoly over retail electricity sales in its service territory, as “applications for distributed solar energy systems in SRP territory fell by 96% after the new pricing plan went into effect.”<sup>88</sup> Nonetheless, states adopting net metering and other incentive systems tacitly acknowledge that customers have the right to establish and use onsite generation. In fact, prior to SRP’s new pricing plan, they had previously offered “tens of millions of dollars in incentives to encourage its customers to buy and lease solar energy systems.”<sup>89</sup> Even in the case of SRP’s new pricing plan and Minnesota’s VOST, there are no legal barriers preventing a customer from

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83. Anne Smart, *Value of Solar Tariffs (VOSTs) Are Value of Solar Taxes*, HUFFINGTON POST (Mar. 28, 2014, 5:14 PM), [http://www.huffingtonpost.com/anne-smart/value-of-solar-power-tariffs-\\_b\\_5051448.html](http://www.huffingtonpost.com/anne-smart/value-of-solar-power-tariffs-_b_5051448.html).

84. *Id.*

85. SRP denies these claims and defends its new pricing plan as a way to ensure fair recovery of the cost necessary for operation and maintenance and improvement of the electric grid its customers use. Keith Goldberg, *SolarCity Claims Ariz. Util. Squeezing Out Rooftop Solar*, LAW 360 (Mar. 3, 2015, 4:37 PM), <http://www.law360.com/articles/627148>.

86. *Id.*

87. *Id.*

88. *Id.*

89. *Id.*

generating onsite while still being connected to the grid. But both of these policies have potentially devastating impacts on the continued viability of a consumer's ability to self-generate. One, SRP's demand charge tariff, makes new distributed solar PV installations uneconomic in this utility service territory in Arizona, and the other, the VOST, which introduces regulatory and tax uncertainty that will drive consumers away from choosing a distributed solar option in Minnesota.

*D. The Regulatory Compact and Its Implications for the Right to Self-Generate*

Is there a commonly understood regulatory compact pursuant to which investor-owned utilities are granted exclusive service territories in exchange for cost-of-service rate regulation? Many industry observers refer to the existence of such an understanding, although it does not exist in an explicit form. In a recent unpublished but widely distributed essay, Scott Hempling argues that the existing understanding is extremely nuanced, and reflects not only state statutory law, but also numerous court decisions as well as performance standards imposed by regulators.<sup>90</sup> What do these expectations, whether or not they rise to the status of a compact, suggest about the right to self-generate?

All states have laws that establish an electric distribution utility's obligation to reliably serve all customers in return for the right to an exclusive monopoly franchise service territory and recovery of, and on, investment to provide that service.<sup>91</sup> But these laws carry with them no reciprocal obligation of consumers to take a set level of electricity from the utility or even to be interconnected with that utility.<sup>92</sup> Those consumers are only obligated to pay for the fully allocated fixed costs for infrastructure needed to serve them, and the costs associated with the other services that the consumer may use including energy and capacity. As stated previously, the fair rate for the consumer's use of the grid for interconnection and use of a distributed generation system is beyond the scope of this paper, but is an assessment that must be conducted in a fair and open hearing with the full rights of evidentiary due process preserved. It is also an examination to be conducted primarily by engineers and economists and not lawyers. These fixed costs to consumers must not only be reasonable, but also the lowest feasible costs.<sup>93</sup>

The right for a consumer to be interconnected and to be provided service upon request indicates that, under anything that might comprise a regulatory compact, the level of service requested by the consumer is at its discretion. The utility's obligation is to provide electric service. The consumer's obligation is to determine if it wants service, and if so, what level of service, and to pay for it. Referring back to the common law analysis above, rights and obligations set forth in state law allow a customer to self-generate a portion of or all of its load requirements as, in this instance, states do not prohibit or restrict a consumer's common law right to full enjoyment of its property, including self-generation. Nor

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90. Hempling, *supra* note 4.

91. As indicated earlier, this legal concept is generally known as the "regulatory compact."

92. See generally JAMES C. BONBRIGHT, ET AL., PRINCIPLES OF PUBLIC UTILITY RATES (2d ed. 1988); see also RICHARD F. HIRSH, POWER LOSS: THE ORIGINS OF DEREGULATION AND RESTRUCTURING IN THE AMERICAN ELECTRIC UTILITY SYSTEM (MIT Press 1999).

93. Hempling, *supra* note 4.

does the regulatory compact impose an obligation on the consumer to “buy all/sell all” of any electric generation on one’s premises. Its only requirement is that the utility provide electric service upon request, but it does not require the customer to make such a request for service from those utility facilities. As discussed above, the legal distinction that the regulatory compact does not incorporate a “buy all/sell all” requirement on self-generators stems from the result that such a requirement would create regulatory uncertainty as to the value of the distributed generation and also potentially negative tax consequences. Thus, just as you have a right to grow trees in your yard that you could harvest and use for fuel in a stove to cook and heat your house, you have an equal right to “harvest” the solar energy on your roof and to purchase a collector to transform it into usable electricity for powering the loads on your own premises. This appears to be implied from the nature of the regulatory compact and its respective rights and obligations.

The Public Service Commission of Wisconsin, in a recently issued Final Decision, made the following statements regarding the regulatory compact and a utility’s obligation to serve consumers in its service territory in discussing appropriate fixed charges to impose on those customers:

Theoretically, if a customer requires no electricity for 364 of the 365 days of the year, the utility nevertheless must build an electric system to provide service to this customer for the one day a year this customer requires power. Wis. Stat. § 196.03. There is no dispute that there are certain fixed costs incurred from simply connecting to the system and that the utility is obligated to make its system available *regardless of the frequency to which that system will be relied upon by certain customers*.<sup>94</sup>

This determination by the Wisconsin Commission supports two important principles for the right to self-generate. First, it clearly indicates that the regulatory compact is a one-way requirement on the part of the utility to provide the availability of electric service. It does not include a reciprocal agreement on the part of the customer to take any level of service from those utility facilities. The only obligation on the part of the consumer is that if they chose to be interconnected to the distribution grid they must pay their share of the fixed costs of investment for that interconnection service. Further, this would then imply that a consumer with a choice of the “. . . frequency to which that system will be relied upon . . .” is also free to choose to self-generate a portion of or all of its load requirements.<sup>95</sup>

Alternatively, if the regulatory compact does not convincingly imply the right to self-generate, the dissipation of the regulatory compact with the simultaneous rise and evolution of a competitive market for electricity generation both indicates and justifies its existence. The regulatory compact was formed on the basis that the electric service was a natural monopoly and that regulation would therefore be in the greater public interest than localized networks that existed before. After the implementation of PURPA and the introduction of free-market principles, these foundational rationales may no longer be valid as policy makers in many jurisdictions have concluded “electricity customers would benefit from

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94. *Wis. Elec. Power Comm’n*, Pub. Serv. Comm’n of Wis. Docket No. 5-UR-107, (Dec. 23, 2014) (final decision).

95. *Id.*

competition.”<sup>96</sup> Technological advances of small-scale electricity technologies and the transmission grid’s ability to deal with an increased number of power suppliers have allowed for an increasingly competitive electricity market.<sup>97</sup> Independently owned cogeneration units and small-scale renewable energy facilities are near or at commercial viability for residential and business customers, capable of producing electricity at comparable costs, and having other positive attributes such as higher resource efficiency and less severe environmental impacts.<sup>98</sup> There is an undeniable “reversal of historic patterns . . . contesting the rationale for utilities’ monopoly status . . .” as customer-producers are on the way to finding that “the grid, and all the competitive transactions occurring on it, [may be] irrelevant.”<sup>99</sup>

#### VI. CONCLUSION

There appears to be a fundamental right, in common law, supported by implication in state and federal law, to self-generate electricity on one’s own property for one’s own use. But that does not mean the legal discussion should end there. Lawmakers and policy makers must continually weigh the benefits stemming from such a fundamental right against the costs that the exercise of a right might impose on society as a whole. The escalating utility legal and policy barriers to net metering for rooftop solar PV systems are putting the right to self-generate to the test. Some state utility commissions are beginning to investigate how to price the excess output from distributed solar. But such an investigation should not eclipse the consumer’s fundamental right to self-generate by imposing economic or legal policies that negate the value of that self-generation. An assessment of the costs and benefits of self-generation and the production of excess generation for the grid must be conducted, assessed, and judged in a dispassionate, transparent, and objective manner or the right to be our own “fire keeper” could be lost without cause.

If regulators are not careful, current efforts by both detractors and supporters to rationalize energy policy for distributed generation with the utility business model could diminish this fundamental right. For example, a value-of-service tariff with a must-sell provision impairs the right to self-generate by making a customer choose between using its own generated power or selling its excess power back into the grid. That choice is a Hobson’s choice in that it then subjects the consumer to the whims of regulation and the risk of taxation. A prohibition on using power purchase agreements for on-site solar production restricts the right to self-generate by eliminating a potentially cost-effective option for “going solar.” A prohibition on behind-the-meter storage could have the same effect, especially in the context of weakened net metering benefits, by preventing the customer from making beneficial use of excess generation. These are but a few examples.

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96. HIRSH, *supra* note 92, at 264.

97. *Id.* at 262, 269-70.

98. *Id.* at 262 (“[b]esides low cost, several of these new technologies had other positive attributes such as higher resource efficiency, less severe environmental impacts, more rapid construction times, and the ability to meet moderate demand growth in an economically sound fashion.”).

99. *Id.* at 262, 270.

Policy advocates may want to encourage regulators and lawmakers to recognize the right to self-generate explicitly, and use potential impacts on that right as a yardstick for assessing the merits of new policy initiatives. Perhaps this is a right that no longer should be implied, but instead, should be saluted.