

HOUSE OF THE ENTERPRISING SUN: THE IOWA SUPREME COURT VOTES FOR DISTRIBUTED SOLAR POWER

By: Peter Agresta

Introduction.....	283
I. How Solar PPAs Work.....	285
II. The Controversy: Public Utilities and Solar PPAs.....	285
III. The Case: <i>SZ Enterprises, LLC v. Iowa Utilities Board</i>	287
A. Facts.....	287
B. Procedural History	288
C. Reasoning and Analysis.....	289
IV. Possible Implications of the Decision.....	294
A. Legal Implications	294
B. The Future of Distributed Solar Generation	295
Conclusion	302

INTRODUCTION

As climate change continues to push civilization away from fossil fuels and towards renewable resources, efforts to pursue renewable energy alternatives can run into barriers in the current fossil fuel dominated regulatory framework.¹ The controversy has become increasingly evident as distributed solar power becomes more popular. Over the years, distributed solar power’s popularity has risen amongst consumers because of the reduction of upfront costs associated with purchasing and installing solar panels.² Although advancements in technology and other monetary incentives have helped to lower costs, the boost in popularity of distributed

1. See Samuel Farkas, *Third Party PPAs: Unleashing America’s Solar Potential*, 28 J. LAND USE & ENVTL. L. 91 (2012) (detailing the basic statutory and regulatory barriers that power purchase agreement (PPA) solar companies often encounter).

2. Jeff McMahon, *6 Reasons for the Solar Boom*, FORBES (Sept. 24, 2014), <https://perma.cc/E2FK-KNRR?type=source>.

solar is largely fueled by alternative payment methods, including third-party power purchase agreements.³

In a third-party solar power purchase agreement, an entity other than the utility company or the consumer installs, owns, warranties, and maintains the solar equipment, and the consumer pays for the energy provided.⁴ Solar power purchase agreements generated controversy with traditional public utilities, and sparked litigation, legislation, and regulation in many states.⁵ In Iowa, the controversy culminated at the state's Supreme Court in *SZ Enterprises, LLC v. Iowa Utilities Board*⁶ In refusing to define third-party power purchase agreement companies as public utilities for the purpose of regulation, the court effectively broke down one of the barriers blocking distributed solar power.⁷ The holding in this case will likely result in an expansion of the use of distributed solar power in Iowa, and possibly spur development of distributed solar in other states.⁸

This article will detail the Iowa Supreme Court's decision in *SZ Enterprises*, and discuss the actual and potential impacts the decision may have on the status of distributed solar power in the United States. Section I explains what solar power purchase agreements ("PPAs") are, and how they work. Section II describes the controversy that has developed between traditional public utilities and companies that make solar PPAs or engage in other forms of distributed energy generation. Section III details and dissects *SZ Enterprises, LLC v. Iowa Utilities Bd.*, providing the facts, procedural history, holding, and the reasoning and analysis of the Iowa Supreme Court. Section IV will discuss the legal significance and real-world implications of the Iowa Supreme Court's decision on the future of public utilities and distributed solar generation.

3. *Id.*

4. *Solar Power Purchase Agreements*, ENVTL. PROT. AGENCY (Apr. 15, 2015), <http://perma.cc/JG4Q-PMSB>.

5. *SZ Enterprises, LLC v. Iowa Utilities Bd.*, 850 N.W. 2d 441 (Iowa 2014); *PW Ventures, Inc. v. Nichols*, 533 So. 2d 281 (Fla. 1988); CAL. PUB. UTIL. CODE § 218(b)(2), <http://perma.cc/3AN2-NMDS>; N.J. STAT. ANN. § 48:3-51 (2014); COLO. REV. STAT. § 40-1-103(2)(C)(2013); Application of SolarCity Corp., Ariz. Corp. Comm'n, Docket No. E-20690A-09-0346, at 70 (July 12, 2010), <http://perma.cc/TH5G-TBRN>.

6. *SZ Enterprises, LLC*, 850 N.W. 2d at 444.

7. *Id.*

8. George C. Ford, *Solar Installations Expected to Grow in Iowa*, GAZETTE (Aug. 17, 2014), <http://perma.cc/ZK3V-AF3B>; see Kristi E. Swartz, *Advocates at Ga. Summit Push Utilities to 'Catch Up'*, ENERGYWIRE (Sept. 12, 2014), <http://perma.cc/AD3N-TMZG> (noting that "the regulatory environment in Georgia and across the Southeast is similar to Iowa's," and that the "landmark ruling captured the attention . . . of Georgia's solar industry.") (on file with the Vermont Journal of Environmental Law); see also Jeffrey Tomich, *Iowa Court Ruling Provides Boost for Third-Party Solar Financing*, ENERGYWIRE (July 14, 2014), <http://perma.cc/WHN8-JRAG> (quoting senior attorney Brad Klein saying "[t]his issue is being discussed and debated in several Midwestern states and the country," and that "[t]hey've all been watching this Iowa case very closely").

I. HOW SOLAR PPAS WORK

Solar PPAs were developed as a way to avoid the upfront costs of purchasing and installing solar panels.⁹ Generally, a third-party installs, owns, warranties, and maintains the solar equipment.¹⁰ Customers then pay for the electricity provided, mostly on a kilowatt hour (“kWh”) basis.¹¹ Rates are usually equal to, or slightly lower than, that of traditional public utilities.¹² Because customers only pay for the amount of energy used, PPAs can attract those customers not willing to pay a fixed monthly rate to lease solar technology.¹³ Further, because customers only pay for the electricity generated by the solar panels, PPAs can attract customers who might be uncertain about the actual energy production performance of solar technology.¹⁴ Third-party PPAs can also be desirable to customers because, unlike public utilities, the use of on-site solar technology provides an assurance that customers are getting their energy from a renewable resource.¹⁵ Further, some states allow the sale of extra power produced by on-site generation technology back into the grid, which translates to big savings for solar PPA users.¹⁶ Third-parties that install, own, and maintain the solar technology are motivated to enter into solar PPAs because they collect state and federal renewable energy tax incentives.¹⁷ A typical PPA agreement lasts from ten to twenty-five years, and can end in an extension of the contract, a termination of the contract, or a transfer of ownership of the solar technology.¹⁸

II. THE CONTROVERSY: PUBLIC UTILITIES AND SOLAR PPAS

9. *Solar Power Purchase Agreements*, *supra* note 4.

10. *Id.*

11. STEFAN LINDER & MICHEL DI CAPUA, US SOLAR—WHITE PAPER: RE-IMAGINING US SOLAR FINANCING 7 (2012), <http://perma.cc/8FZZ-FR6L> (“A host pays to the third-party financier either a series of payments via a lease (\$/month) or PPA payments linked to the system’s performance (\$/kWh), usually based of a 10-25 year contract.”).

12. Farkas, *supra* note 1, at 98.

13. See *Solar Leases & Solar PPAs*, ENERGY SAGE, <https://perma.cc/TVJ3-SEAZ> (last visited Oct. 1, 2014) (noting that solar leases and PPAs both reduce the upfront costs of installing solar technology, but their payment methods differ). In a solar PPA, customers pay only for the power produced by the system, making PPAs more desirable to those who worry about power production reliability of solar technology. Scott Gordon, *Solar Leases v. Power Purchase Agreements (PPAs)*, HELIOPower (Aug. 3, 2012), <http://perma.cc/RK2L-HPFQ>.

14. *Solar Power Purchase Agreements*, *supra* note 4.

15. Gordon, *supra* note 13, at 2.

16. Steven Ferrey, *Nothing But Net: Renewable Energy and the Environment*, *Midamerican Legal Fictions, and Supremacy Doctrine*, 14 DUKE ENVTL. L. & POL’Y F. 1, 16 (2004).

17. *Solar Power Purchases*, *supra* note 4.

18. LINDER & DI CAPUA, *supra* note 11.

Solar PPAs run into legal issues in states with “regulated, vertically integrated utilities.”¹⁹ Vertically integrated utilities are essentially monopolies with a catch: heavy regulation, instead of competition, keeps service at a fair and balanced price.²⁰ In a perfect world, competition would keep rates at a stable, low price, and distributed renewable energy could more easily work itself into the existing system.²¹ However, in eliminating competition, regulators “ensure a highly functioning grid” because monopolized utilities will be more willing to invest in the grid if they can be sure their investment will pay off.²² Further, monopolizing utilities prevents volatile supply and demand issues, and “unnecessary duplication of assets such as transmission and distribution facilities.”²³ Traditionally, “vertically integrated utilities are responsible for generation, transmission, and distribution of power to retail customers.”²⁴ States with vertically integrated utilities generally proscribe selling energy in territories serviced by monopoly granted utility companies. In these states (like Iowa), whether companies that carry out solar PPAs are defined as a public utility becomes vitally important in determining if they will be a viable option in that state.²⁵

As the growing trend towards environmentalism and reduced initial costs fuels the popularity of solar PPAs, public utilities are feeling threatened and have begun to push back.²⁶ As a general matter, public utility companies argue that allowing solar PPA providing companies to go unregulated will have drastic effects on supply and demand.²⁷ Public utility companies argue that allowing customers to produce energy behind the meter hurts their financial bottom line.²⁸ Further, utilities assert that because of their fixed

19. KATHARINE KOLLINS ET AL., SOLAR PV PROJECT FINANCING: REGULATORY AND LEGISLATIVE CHALLENGES FOR THIRD-PARTY PPA SYSTEM OWNERS 1, 4 (2010), <http://perma.cc/98CY-DCTX>.

20. REGULATORY ASSISTANCE PROJECT, ELECTRICITY REGULATION IN THE US: A GUIDE 54 (2011), <http://perma.cc/NAP6-MWW3>.

21. See Jeff B. Slaton, *Searching for “Green” Electrons in a Deregulated Electricity Market: How Green is Green?*, 22 ENVIRONS: ENVTL. L. & POL’Y J. 21, 26 (detailing deregulation of energy in California that allows customers to purchase “power either from the local utility, an independent marketer, or directly from a producer”). In California, deregulation opened the doors to solar PPAs. *Id.*

22. KOLLINS, *supra* note 19, at 4.

23. *Id.*

24. REGULATORY ASSISTANCE PROJECT, *supra* note 20.

25. KOLLINS, *supra* note 19, at 4.

26. Daniel Cusick, *Traditional Utilities Challenge Solar Power Companies in Upper Midwest*, ENERGYWIRE (Jan. 27, 2014), <http://perma.cc/7ZXP-QBGH> (on file with the Vermont Journal of Environmental Law).

27. Solar generation is most effective from late morning to early afternoon. Utilities argue that, if there is widespread use of distributed solar generation, sharp increases in energy demand in the late afternoon when solar is no longer effective will require “a lot of standby power from expensive to operate, rapid-response power plants.” John Farrell, *Utilities Cry “Fowl” Over Duck Chart and Distributed Solar Power*, CLEAN TECHNICA (July 21, 2014), <http://perma.cc/8LJX-J93T>.

28. Tomich, *supra* note 8.

costs, they will have to raise the rates of all their customers, which would disproportionately harm those customers without solar technology.²⁹

As the controversy between public utilities and solar PPA companies (and distributed generation in general) heated up, states responded in various ways, including regulation and legislation. In most of the states, the issue was whether solar PPA companies would be defined as a public utility within the existing statutory and regulatory framework.³⁰ Some states, including Arizona, Nevada, Oregon, and New Mexico, have decided PPAs are not public utilities through state agency regulatory decisions.³¹ Other states, like California, New Jersey, and Colorado, have used the legislative process to explicitly remove PPAs from public utility regulation.³² Some states have yet to answer the question through legislation or regulation.³³ In some of these states, like Florida, it came down to the courts to decide whether a solar PPA company should be defined as a public utility.³⁴ Somewhat ironically, given that it is sometimes called the sunshine state, Florida's Supreme Court held solar PPAs are public utilities under Florida law, which has resulted in an outright disallowance of solar PPAs in Florida.³⁵ Enter *SZ Enterprises*, where the Iowa Supreme Court was asked more or less the same question as the Florida Supreme Court and came up with a strikingly different answer.³⁶

III. THE CASE: SZ ENTERPRISES, LLC V. IOWA UTILITIES BOARD

A. Facts

The parties of this litigation are *SZ Enterprises* (doing business as Eagle Point Solar) and the Iowa Utilities Board.³⁷ Eagle Point Solar is a solar power company which enters into agreements to sell electricity generated “behind the meter” at a kWh basis.³⁸ IUB “regulates the rates and services of electric,

29. *Id.*

30. Farkas, *supra* note 1, at 102.

31. *SZ Enterprises, LLC*, 850 N.W. 2d at 456–59; see Application of SolarCity Corp., Ariz. Corp. Comm'n, *supra* note 5, at 70 (July 12, 2010), <http://perma.cc/V5R2-SA6Z> (finding that Solar City was not acting as a public utility when selling electricity in a power purchase agreement to schools, government, and non-profit entities.); Declaratory Order Regarding Third-Party Arrangements for Renewable Energy Generation, N.M. Pub. Reg. Comm'n, No. 09–00217–UT 13–14, <http://perma.cc/98JL-DFN2>.

32. CAL. PUB. UTIL. CODE § 218(b)(2), <http://perma.cc/U7VR-WT5K>; N.J. STAT. ANN. § 48:3–51 (2014).

33. Farkas, *supra* note 1, at 102.

34. *PW Ventures*, 533 So. 2d at 282.

35. *Id.* at 284.

36. *SZ Enterprises*, 850 N.W.2d at 444.

37. *Id.* at 443–44.

38. *Id.* at 444.

natural gas, and water utilities . . . and generally supervises all pipelines and the transmission, sale, and distribution of electrical current.”³⁹ Third-parties intervened on both sides of the litigation.⁴⁰ Of the intervening parties, Interstate Power and Light Company (“Interstate Power”), a subsidiary of Alliant Energy Corporation,⁴¹ had the most at stake in this litigation, and argued strongly in favor of IUB’s position.⁴²

B. Procedural History

This conflict arose when Eagle Point entered into an agreement with the city of Dubuque, which had expressed desires to develop renewable energy, to install solar panels on a city-owned building.⁴³ The city was to pay for the electrical energy produced by the solar panels on a kWh basis.⁴⁴ The city-owned building in question is within the exclusive service territory granted to Interstate Power.⁴⁵ Due to the size of the building, the solar panels would be unable to sustain it independently. The building would have to remain attached to the grid, relying on Interstate Power to supply the rest of its energy demands.⁴⁶ Anticipating controversy, Eagle Point Solar petitioned the IUB for a declaration that it is not acting as a public utility, and is therefore not subject to the exclusive service territory requirement.⁴⁷ The IUB decided Eagle Point was acting as a public utility and was therefore prohibited from operating within the exclusive service territory of another electric utility.⁴⁸ Eagle Point petitioned for judicial review of the IUB’s decision, and the District Court decided that Eagle Point was not operating as a public utility.⁴⁹ The District Court made its decision based on the *Serv-Yu* factors from *Iowa State Commerce Commission v. Northern Natural Gas Company*⁵⁰ IUB and

39. *Jurisdiction and the Regulatory Authority of the Iowa Utilities Board*, IOWA UTIL. BD., <https://perma.cc/74JT-XUEZ> (last visited Oct. 28, 2015); IOWA CODE ANN. §§ 476–479B (West 2012).

40. *SZ Enterprises*, 850 N.W.2d at 441–42.

41. *Operations and Organization*, ALLIANT ENERGY, <http://perma.cc/8FT5-JWGC> (last visited Nov. 3, 2015).

42. *See SZ Enterprises*, 850 N.W. 2d at 444 (explaining that if Eagle Point was considered a public utility, it would be prohibited from serving customers in the exclusive territory of another utility, which in this case was Interstate Power).

43. *Id.*

44. *Id.*

45. *Id.* at 445.

46. *Id.*

47. *Id.*

48. *Id.*

49. *Id.* at 446.

50. *SZ Enterprise*, 850 N.W.2d at 446; *see Iowa State Commerce Comm’n v. N. Nat. Gas Co.*, 161 N.W.2d 111, 114–15 (Iowa 1968) (citing *Nat. Gas Co. v. Serv-Yu Coop. Inc.*, 219 P.2d 324, 325–26 (Ariz. 1950)) (illustrating that the court used an eight factor test derived from an Arizona Supreme Court case to determine that Northern Natural Gas Company was operating as a public utility).

Interstate Power then appealed the decision of the District Court to the Iowa Supreme Court.⁵¹ The Supreme Court of Iowa affirmed the judgment of the District Court.⁵² The Supreme Court also applied the *Serv-Yu* factors and came to the conclusion that Eagle Point is not functioning as a public utility within Iowa's code framework when it enters into power purchase agreements with customers within the exclusive service territory of Interstate Power.⁵³

C. Reasoning and Analysis

Vital to this case was the Iowa Supreme Court's classification of Eagle Point within the framework of the Iowa Code; the relevant statutes analyzed to make this determination included I.C.A. sections 476.1 and 476.22.⁵⁴ Both I.C.A. sections 476.1 and 476.22 define a "public utility" for the purposes of regulation under the Iowa code.⁵⁵ If Eagle Point Solar fits either of these definitions, it is subject to the prohibition set out by section 476.25(3), which states that "[a]n electric utility shall not serve or offer to serve electric customers in an exclusive service area assigned to another electric utility, nor shall an electric utility construct facilities to serve electric customers in an exclusive service area assigned to another electric utility."⁵⁶ Essentially, if Eagle Point is defined as a public utility within these definitions, then it cannot legally operate within the exclusive service area assigned to another public utility.

The Court first determined whether Eagle point is a public utility under I.C.A. section 476.1, which states that "[a]s used in this chapter, 'public utility' shall include any person, partnership, business association, or corporation, domestic or foreign, owning or operating any facilities for: a. Furnishing gas by piped distribution system or electricity to the public for compensation."⁵⁷ To decipher the meaning of this statute, and more specifically the words "to the public," the court first looked to the common law and the state case law that stems from it.⁵⁸ The Court noted that states generally fall between two schools of thought when defining public utilities. The first school of thought is a rigid approach that "relies on the notion that in order to be a public utility serving the public generally, the entity must

51. *SZ Enterprises*, 850 N.W. 2d at 444.

52. *Id.*

53. *Id.* at 466–68.

54. *Id.* at 460–61.

55. IOWA CODE ANN. §§ 476.1, 476.22.

56. *Id.* § 476.25(3).

57. *Id.* § 476.1.

58. *SZ Enterprises*, 850 N.W. 2d at 454.

directly or indirectly hold itself out as providing service to all comers.”⁵⁹ The second school of thought is a more flexible method that uses “a functional approach and concentrate[s] on the nature of the underlying service and whether there is a sufficient public need for regulation.”⁶⁰ As the Court noted, and as the Iowa case law confirms, Iowa has traditionally used the flexible approach to define public utilities.⁶¹

The Supreme Court of Iowa looked to case law and found that it had interpreted the language in section 476.1 (“to the public”) flexibly in *Iowa State Commerce Commission v. Northern Natural Gas Company*.⁶² In *Northern Natural Gas*, the Court determined that a corporation “may be so far affected by a public interest that it is subject to regulation”⁶³ The Court went on to adopt a test from *Natural Gas Company v. Serv-Yu Cooperative, Inc.*, an Arizona Supreme Court case.⁶⁴ In *Serv-Yu*, the Arizona Supreme Court used an eight factor test (“*Serv-Yu* factors”) in order to determine whether a natural gas company was operating as a public utility: (1) what the corporation actually does; (2) whether the corporation is dedicated to the public use; (3) the articles of incorporation, authorization, and purposes of the corporation; (4) whether the corporation deals with the service of a commodity in which the public has been generally held to have an interest; (5) whether the corporation has monopolized or intends to monopolize the territory with a public service commodity; (6) whether the corporation accepts substantially all requests for service; (7) whether the corporation retains the right to discriminate with whom it creates contracts; and (8) whether the corporation actually or potentially competes with other corporations whose business is clothed with the public interest.⁶⁵ As Iowa’s flexible approach generally suggests, none of the *Serv-Yu* factors are individually determinative in defining a corporation as a public utility.⁶⁶ Instead, the court analyzes the *Serv-Yu* factors on a case-by-case basis,

59. *Id.*

60. *Id.* at 454–55.

61. *Id.* at 455; see *Iowa State Commerce Comm’n*, 161 N.W.2d at 114 (holding that “the question whether a business enterprise constitutes a public utility is determined by the nature of its operations,” and using a factored approach to determine if a business is affected with public interest); see also *N. Nat. Gas Co. v. Iowa Utils. Bd.*, 679 N.W.2d 629, 633–34 (Iowa 2004) (rejecting the traditional rigid analysis and instead analyzing “a variety of factors that centered on the nature of the actual operations conducted and its effect on the public interest”).

62. *SZ Enterprises*, 850 N.W. 2d at 466.

63. *Iowa State Commerce Comm’n*, 161 N.W.2d at 114.

64. *Id.* at 115.

65. *Serv-Yu*, 219 P.2d at 325–26.

66. *Iowa State Commerce Comm’n*, 161 N.W.2d at 114.

balancing and assessing the strength of each factor in a fluid, practical manner.⁶⁷

Some of the *Serv-Yu* factors lean in favor of classifying Eagle Point as a public utility, while others do not. Consequently, Eagle Point and IUB emphasized different *Serv-Yu* factors in their arguments. However, perhaps sensing that a *Serv-Yu* analysis would result in Eagle Point's favor, IUB first tried to argue that the *Serv-Yu* factors do not apply.⁶⁸ IUB then argued that "the activities of PPAs reduce the demand for the product of regulated monopolies, thereby reducing the utilities' ability to recover the reasonable costs of providing service to the public," and that, as a result, "the shortfall must be recovered from other retail customers in the form of higher rates."⁶⁹ IUB's argument emphasizes the eighth *Serv-Yu* factor, which asks whether the corporation does or could potentially compete with public utility.

Although Eagle Point systematically analyzed each of the *Serv-Yu* factors, the focus of its argument was on the first factor and a rebuttal of IUB's analysis of the eighth factor.⁷⁰ Eagle Point argued that the nature of its business was not to furnish electricity to the public, but rather to install and finance solar technology.⁷¹ In rebuttal to IUB's assertion that PPAs cause a reduction in the utilities' ability to recover costs that would cause higher rates for other retail customers, Eagle Point presented evidence that these issues "have not manifested in states that allow PPA financing."⁷²

The Court applied the facts of the case to the test by applying the *Serv-Yu* factors to Eagle Point.⁷³ In analyzing the first factor, the Court had to decide what Eagle Point actually does. The Court came to the conclusion that whether Eagle Point's PPAs are described as a sale of electricity or a long-term solar financing agreement, they are ultimately "arms-length transaction[s] between a willing buyer and a willing seller," and that "there is no reason to impose regulation on this type of individualized and

67. See *SZ Enterprises*, 850 N.W.2d at 468 ("[T]he weighing of the *Serv-Yu* factors is not a mathematical exercise but instead poses a question of practical judgement."); see also *Iowa State Commerce Comm'n*, 161 N.W.2d at 114–15 (giving weight to some of the *Serv-Yu* factors—while others were inconclusive or simply did not apply—in the courts determination that a natural gas company was a public utility).

68. IUB first argued that Eagle Point was a public utility under the plain reading of Iowa Code Ann. secyion 476.1, stating that Eagle Point was clearly "furnishing" electricity to the public. *SZ Enterprises*, 850 N.W.2d at 461. IUB further argued that the *Serv-Yu* factors would not apply in this situation because Eagle Point is clearly a public utility under the statute. *Id.* IUB made an argument in the alternative that even if the *Serv-Yu* factors applied, Eagle Point should still be considered a public utility. *Id.* at 461–62.

69. *Id.*

70. *Id.* at 463–64.

71. *Id.* at 464.

72. *Id.*

73. *Id.* at 466–68.

negotiated transaction.”⁷⁴ Recognizing that IUB does not seek to regulate behind-the-meter solar panels financed by leases, the Court deduced that the actual issue was not the supplying of energy, but the method of financing the solar panels.⁷⁵

The second *Serv-Yu* factor asks whether Eagle Point’s services are dedicated to the public use. Comparing behind the meter solar panels to energy efficient technologies that also reduce energy demand from utilities, the Court decided that the installation and financing of behind-the-meter solar panels are not dedicated to the public use.⁷⁶ The Court found the third *Serv-Yu* factor inconclusive, and continued to the fourth.⁷⁷

In analyzing the fourth *Serv-Yu* factor, the Court found that on-site solar power was “not an indispensable service that ordinarily cries out for public regulation.”⁷⁸ It made this determination based on the fact that those who contract with Eagle Point are still connected to the grid and rely on it because solar panels might not satisfy all of their energy needs.⁷⁹ The Court also noted that Eagle Point’s solar PPAs are “an option for those who seek to lessen their utility bills or who desire to promote ‘green’ energy” as opposed to a required commodity that the public depends on.⁸⁰

The fifth *Serv-Yu* factor asks whether Eagle Point has monopolized, or intends to monopolize, the territory with a public service commodity.⁸¹ The Court found this factor heavily favored a holding that Eagle Point is not a public utility.⁸² The Court noted that the nature of the transaction—that the city would not owe Eagle Point anything unless the solar panels produced energy—suggests that Eagle Point was not “[m]onopolizing or intending to monopolize the territory with a public service commodity.”⁸³

The Court grouped the sixth and seventh factors together, which deal with the ability to accept service requests and to discriminate amongst members of the public.⁸⁴ The fact that Eagle Point is not producing a commodity that everyone needs, and that solar technology might not be

74. *Id.* at 466.

75. *Id.*

76. *Id.* at 467

77. *Id.*

78. *Id.*

79. *Id.*

80. *Id.*

81. *Id.* at 448.

82. *Id.* at 467 (“[T]he fifth *Serv-Yu* factor relating to monopoly clearly cuts against a finding that Eagle Point is a public utility.”).

83. *Id.* at 458.

84. *Id.* at 467.

feasible for some customers, led the Court to determine that factors six and seven weighed against Eagle Point being a public utility.⁸⁵

The Court found the eighth factor to be the most interesting, as it considers whether Eagle Point creates competition with public utilities and seemed to be the most controversial issue amongst the litigants.⁸⁶ In finding that Eagle Point does not replace the public utility, but does reduce the energy demand, the Court found logic in IUB's argument and admitted that the eighth factor leans toward defining Eagle Point as a public utility.⁸⁷ However, the Court decided that it would not come to that conclusion in light of the weight afforded to the other factors and additional mitigating factors.⁸⁸

After analyzing the eight *Serv-Yu* factors, the Court finally determined that Eagle Point is not a public utility under section 476.1.⁸⁹ In the words of the Court, "the balance of factors point away from a finding that the third-party PPA for a behind-the-meter solar generation facility is sufficiently 'clothed with the public interest' to trigger regulation."⁹⁰

The Court then had to determine whether Eagle Point solar is an electric utility within the definition provided by section 476.22.⁹¹ This statute states that "[a]s used in sections 476.23 to 476.26, unless the context otherwise requires, "electric utility" includes a public utility furnishing electricity as defined in section 476.1 and a city utility as defined in section 390.1."⁹² IUB argued that because section 476.22 used the words "includes a public utility," the statute suggests "that there might be situations where an entity which is not a public utility could be an electric utility" and would still be subject to regulation.⁹³ IUB further asserted that "the exclusive territory provisions require that the definition of electric utility should be broader than public

85. *See id.* ("Eagle Point is providing a customized service to individual customers. Whether Eagle Point can even provide the service will depend on a number of factors, including the size and structure of the rooftop, the presence of shade or obstructions, and the electrical use profile of the potential customer. Further, if Eagle Point decides not to engage in a transaction with a customer, the customer is not left high and dry, but may seek another vendor while continuing to be served by a regulated electric utility. These are not characteristics ordinarily associated with activity 'clothed with a public interest.'")

86. *Id.* at 461–68.

87. *Id.* at 467–68 (noting that "[i]f the third-party-PPA movement gets legs in Iowa, it is conceivable that demand for electricity from traditional utilities will be materially impacted in the long run[.]" which could negatively affect other rate payers).

88. *See id.* at 468 (noting that Eagle Point does not wish to replace traditional electric utilities, and that PPA can be converted into lease agreements).

89. *Id.*

90. *Id.*

91. *Id.* at 469.

92. IOWA CODE ANN. § 476.22.

93. *SZ Enterprises*, 850 N.W. 2d at 469.

utility.”⁹⁴ But the Court was unwilling to expand the definition of electric utility, finding that IUB did not offer a substantive reason for doing so.⁹⁵

IV. POSSIBLE IMPLICATIONS OF THE DECISION

A. *Legal Implications*

Although *SZ Enterprises, LLC v. Iowa Utilities Bd.* was regarded as a landmark opinion for distributed solar generation, the decision has a limited legally binding effect.⁹⁶ As is the case with most Iowa Supreme Court cases, Iowa will be the most affected by this decision because the precedent created is only legally binding in Iowa. However, the Court’s ruling has opened doors for Eagle Point Solar (and companies like it) to contract PPAs, and it is quite likely that this decision will spur the growth of distributed solar power in Iowa.⁹⁷ Now that its legal position is more fully understood, Eagle Point will likely look to expand its business, and customers will be more likely to enter into contracts and agreements with them. The battle in Iowa will go down as a win for solar PPAs, but the nationwide war rages on.⁹⁸

Although the ruling of the Iowa Supreme Court is not binding law in other states, it can serve as persuasive precedent for other state courts. Take, for instance, Iowa’s adoption of the *Serv-Yu* factors. The factors come from an Arizona Supreme Court case⁹⁹, but were adopted by Iowa in *Iowa State Commerce Commission v. Northern Natural Gas Company*.¹⁰⁰ *SZ Enterprises* is the first case at the appellate level to decide that a solar power PPA is not a public utility, and other state courts could adopt the Iowa Supreme Court’s reasoning when presented with a similar PPA issue.¹⁰¹ This is especially true in states that have similar regulatory structures as Iowa. For those states where the status of third-party PPAs is ambiguous, the Iowa case

94. *Id.* at 470.

95. *Id.* (noting that IUB “has not offered a clear explanation as to why Eagle Point should be considered an electric utility even if it is not a public utility”).

96. Tomich, *supra* note 8 (describing the Court’s decision as “a landmark opinion by the state’s highest court affirming the rights of solar developers to enter into third-party financing agreements with their customers.”).

97. Ford, *supra* note 8; see Tomich, *supra* note 8 (quoting Senior Attorney Brad Klein who stated “It has an immediate and dramatic impact in Iowa for customers who want to go solar,” and “This type of financing opens up the market for everybody.”).

98. See Tomich, *supra* note 8 (stating that “while about half the states in the county expressly allow such third-party financing arrangements, the legality in others remains ambiguous”).

99. *Serv-Yu*, 219 P.2d at 325–26.

100. *Iowa State Commerce Comm’n*, 161 N.W.2d at 115.

101. See *SZ Enterprises*, 850 N.W. 2d at 456 (“[T]he parties have not cited, and we have not found, appellate caselaw on the question of whether the developer-owner under a PPA is a public utility within the scope of regulatory statutes.”).

can serve as guide.¹⁰² Further, Senior Attorney Brad Klein, who argued in this case, stated that the third-party PPA “issue is being discussed and debated in several Midwestern states and the country,” and that “[t]hey’ve all been watching this Iowa case very closely.”¹⁰³ *SZ Enterprises* essentially provides the blueprints to argue a similar case, and some persuasive precedent in favor of PPAs.

The *SZ Enterprises* decision can also serve as persuasive precedent because it is extremely comprehensive. In the course of making its decision, the Court thoroughly explained its reasoning and made some distinctions about third-party solar PPAs which could be used as persuasive precedent. For instance the court likened behind the meter solar power to energy efficient technologies such as thermal windows, insulation or energy efficient appliances.¹⁰⁴ This becomes an important argument when considering the public utilities’ most potent arguments. IUB argued that the reduction in demand would negatively affect other ratepayers in the form of higher energy rates.¹⁰⁵ The Iowa Supreme Court recognized that energy efficient technologies reduce demand in similar ways, but the sale of energy efficient technologies could not possibly be considered a public utility.¹⁰⁶ The win for Eagle Point Solar in Iowa could inspire legal confidence in other companies nationwide, or even inspire legislatures and agencies to take action before controversies occur.

B. The Future of Distributed Solar Generation

With a major win in the Iowa Supreme Court, the future of distributed solar generation is bright. But as the technology becomes more popular, more prevalent, and easier to access, it is inevitable that controversies and technical complexities are on the horizon. For example, IUB’s and Interstate Power’s concerns about reduced demand affecting rates could be legitimate. Even the Iowa Supreme Court was not blind to the fact that “[i]f the third-party-PPA

102. See Tomich, *supra* note 8 (stating that Senior Attorney Brad Klein believes “the Iowa case could also help inform decisions in other states, including neighboring Minnesota and Wisconsin, where there’s uncertainty surrounding third-party PPA agreements because utility commissions and the courts have yet to make formal rulings” and that “the Iowa case is a bellwether”).

103. *Id.*

104. *SZ Enterprises*, 850 N.W.2d at 467; see The Cadmus Group, Inc., *Interstate Power and Light Savings Reference Manual*, IOWA UTILITY, 349 (July 21, 2014), <http://perma.cc/LZR7-ZJ5X> (grouping energy efficient technologies and “measures that provide energy and/or demand savings” in a custom rebate program for energy efficient technologies).

105. *SZ Enterprises*, 850 N.W.2d at 469 (“IUB theorizes that if such behind-the-meter generation is allowed, the public utility will be left with excess generation capability which represents a cost that must be passed on to ratepayers.”).

106. See *id.* at 467 (noting that Eagle Point’s “installation is no more dedicated to public use than the thermal windows or extra layers of insulation in the building itself”).

movement gets legs in Iowa, it is conceivable that demand for electricity from traditional utilities will be materially impacted in the long run.”¹⁰⁷ A material impact of demand is a problem for public utilities because they are so heavily regulated. One of the reasons public utilities are so heavily regulated is to ensure a highly functional electrical grid.¹⁰⁸ Regulation ensures a public utility a return on their investments when they maintain the grid reliably and efficiently.¹⁰⁹ With the maintenance of the grid and the investments made to ensure the supply of energy (and prevent blackouts) come fixed costs, and utilities believe the decrease in demand caused by distributed solar power would transfer those fixed costs to other ratepayers who are not tapped into solar.¹¹⁰

Opponents of this theory point to states that have allowed PPAs and have to encounter this problem.¹¹¹ Whether the cost-shifting issue is a legitimate concern, utilities are not waiting to find out. For example, *Oklahoma Gas and Electric Company* is considering asking “regulators for permission to impose a demand charge on customers who use distributed generation such as rooftop solar panels.”¹¹² *Oklahoma Gas and Electric Company* reasons that the demand charge is justified because solar customers use the grid more than traditional users when they put power back on the grid.¹¹³ In fact, Wisconsin regulators have implemented a demand charge on customers who generate solar energy.¹¹⁴

As distributed solar generation becomes more prevalent, states are forced to deal with the issue of net metering. Net metering (also known as net billing) essentially provides compensation for running the meter backwards or, in other words, producing more power than you consume, and feeding the excess power back into the grid.¹¹⁵ This can reduce a ratepayer’s bills or even

107. *Id.* at 468.

108. KOLLINS, *supra* note 19, at 4.

109. *Id.*

110. *SZ Enterprises*, 850 N.W. 2d at 469; *see Tomich, supra* note 8 (“Utilities complain that customers who self-generate a portion of their own energy deprive them of electricity sales needed to cover fixed costs.”).

111. *SZ Enterprises*, 850 N.W.2d at 464–65.

112. Paul Monies, *Oklahoma Solar Customers May See Charges for Grid Costs*, TIMES RECORD (Oct. 31, 2014), <http://perma.cc/JN7M-KPY5>.

113. *See id.* (quoting Don Rowlett, managing director of regulatory affairs at Oklahoma Gas and Electric Co., who stated “I think an argument can be made that distributed generation customers use the grid more than non-participating customers, because you’re not only taking power off the grid, but you’re putting power back on the grid”).

114. Jeffrey Tomich, *Approval of Utility Proposals Dims Outlook for Net Metering in Wis.*, ENERGYWIRE (Nov. 17, 2014), <http://perma.cc/C5U9-R4KM> (noting that this was accomplished by raising the monthly fixed customer charges “by 75 percent to \$16 a month -- the second-highest among investor-owned utilities in the Midwest.”) (on file with the Vermont Journal of Environmental Law).

115. Ferrey, *supra* note 16, at 15.

make them a profit (depending on energy use).¹¹⁶ Net metering is governed by state law pursuant to a Federal Energy Regulation Commission (“FERC”) opinion that rejected the idea that net metering regulation by the states is preempted by federal law.¹¹⁷ Some states have enacted legislation or promulgated regulations in an effort to restrict net metering. For instance, both Kentucky and North Carolina only allow net metering for customers who own and operate the generation equipment.¹¹⁸ This restriction would effectively bar PPA or lease customers from benefitting from net metering.¹¹⁹ Other states, by the same method, have restricted net metering.¹²⁰

Some states have tried to control net metering by enacting legislation, while others have relied on their regulatory agencies to promulgate net metering rules.¹²¹ When it comes to regulation of net metering, the biggest, and often most controversial, issue is determining how much customers should be paid for the excess energy fed back into the grid.¹²² States generally employ one of the following rate structures for net metering: (1) a rate that “values all of the electricity that the customer-generator generates on site at the retail rate [the customer] pays for delivered electricity, at least up to the quantity [the customer] demanded during the billing period”; or (2) “a much lower avoided cost rate, which values the electricity based on the costs that the utility would have incurred had it delivered the electricity to the customer.”¹²³ Predictably, proponents of distributed solar and public utilities are at odds on how the rates for customer-generators should be calculated.¹²⁴ Proponents of distributed solar argue that the lower rate structure “fails to adequately pay customer-generators for the services they provide to the

116. *Id.*

117. *See id.* at 77–79 (explaining that FERC’s decision in *MidAmerican Energy Co.*, 85 FERC 61,470, 62,713 (1998), effectively granted regulation of net metering to the states). FERC declined to take action when *MidAmerican Energy Company* “filed a petition for enforcement pursuant to Section 210(h) of the Public Utility Regulatory Policies Act of 1978 (PURPA)”. *MidAmerican* requested the “Commission to issue a declaratory order that the Iowa Board’s actions directing net billing arrangements are preempted by PURPA . . .” *Id.* FERC’s refusal to enforce PURPA in this situation creates a distinction between qualified small power producing facilities that sell energy to utilities under PURPA and energy producers who are merely selling their extra energy to utilities through net metering. Ferrey, *supra* note 16 at 77–79. FERC’s decision effectively granted regulation of net metering to the states. *Id.*

118. Farkas, *supra* note 1, at 104–105.

119. *Id.*

120. *Net Metering*, SOLAR ENERGY INDUS. ASS’N, <http://perma.cc/V9UM-NG9D> (last visited Nov. 21, 2014).

121. *Id.*

122. *See* John V. Barraco, *Distributed Energy and Net Metering: Adopting Rules to Promote a Bright Future*, 29 J. LAND USE & ENVTL. L. 365, 370–71 (2014) (describing the tensions created by net metering regulations between the solar industry and public utilities).

123. *Id.* at 368–69.

124. *Id.* at 370–71.

utility, especially during peak hours.”¹²⁵ The higher rate increases savings for solar customers, which further fuels the growth of the solar industry.¹²⁶ Utilities believe the lower rate is appropriate because it would protect non-solar customers from the possible cost-shifting effect of decreased demand.¹²⁷ In Wisconsin, regulators have imposed tariffs on energy fed back into the grid by energy producing customers.¹²⁸ We Energies, Wisconsin’s largest electric utility, argues that the tariffs were imposed because “[e]xisting rules for rooftop solar and other forms of distributed generation prevent full cost recovery . . .” and would “unfairly subsidize the few customers with solar . . .”¹²⁹ Further, utilities argue that customer-generators “use the grid to sell excess electricity back to the utility provider, and they rarely pay for these grid services . . .”¹³⁰

As distributed solar generation continues to thrive and grow, the problems associated with cost-shifting and net metering will have to be dealt with. But these questions, and the status of distributed generation in general, beg the question of what the role of public utilities should be in the context of energy. More specifically, is producing and selling electricity what defines public utilities, or is it reliable maintenance and energy management of the grid? This is the idea behind what some are calling the smart grid. Although the term “smart grid” is not uniformly defined, the term generally signifies a grid characterized by certain fundamental properties: decentralized energy supply, or energy that is generated from distributed sources; two way power flow, which means power can dynamically flow from where it is in excess to where it is needed; and information flow among assets, operators, and consumers, which tells the energy where it needs to be and protects the system outages.¹³¹ Decisions like *SZ Enterprises*, that stimulate growth in decentralized energy supply are small steps toward implementing smart grid technology.

While the growth of distributed solar generation is an important step, simply plugging in more distributed sources will not make the smart grid a reality. In order for distributed solar generation to continue to grow and

125. *Id.* at 368–71 (noting that on hot days, when the sun is shining bright and air conditioners are blasting, distributed solar generation effectively handles high demand of electricity).

126. *See* Ferrey, *supra* note 16, at 6 (describing net metering as “the principal mechanism employed by the states to encourage decentralized and renewable energy technologies”).

127. Barraco, *supra* note 122, at 371.

128. Tomich, *supra* note 114.

129. *Id.*

130. *See* Marc Gunther, *With Rooftop Solar on the Rise, U.S. Utilities Are Striking Back*, ENVIRONMENT360 (Sept. 3, 2013), <http://perma.cc/LAUX-EC4S> (stating that in Arizona “current rules essentially allow those customers to use the grid for free”).

131. Joe Miller, *Energy Bar Association Panel Discussing the Smart Grid*, 31 ENERGY L.J. 81, 84 (Dec. 4, 2009).

progress toward the smart grid, it is imperative that the value provided by solar generation be shared amongst customers and utilities.¹³² In an effort to penetrate the market and increase the value of distributed photovoltaic generation, solar companies have rightly focused on lowering the upfront costs of the technology and installation, which has proved to be a successful strategy thus far.¹³³ However, this strategy has created conflict with traditional public utilities, and, due to high credit score rating requirements for PPAs and leases, excludes a large portion of the market.¹³⁴ To truly maximize the value of distributed solar generation, solar companies will have to work in concert with public utilities.¹³⁵ In fact, a recent Moody's Investor Service Report has recognized the business opportunities available to public utilities that support solar.¹³⁶ The report discounted the idea that "distributed generation could trigger a 'death spiral' for traditional utilities," and noted that "the electric grid is a critical piece of infrastructure, and consequently, [Moody's believes] utilities will continue to receive reasonable regulatory treatment."¹³⁷ The Moody's report asserted that "[s]tate lawmakers and regulators hold the key to a smooth transition of the electric utility business model to accommodate distributed generation, especially rooftop solar."¹³⁸

Recognizing the untapped value of solar power (and consequently substantiating the Moody's report), the Hawaii Public Utilities Commission is considering implementing on-bill financing of rooftop solar projects.¹³⁹ Put simply, Hawaii's on-bill financing plan allows ratepayers to finance solar projects through payments directly on their utility bills.¹⁴⁰ In Hawaii's on-

132. MATHIAS BELL ET AL., BRIDGES TO NEW SOLAR BUSINESS MODELS: OPPORTUNITIES TO INCREASE AND CAPTURE THE VALUE OF DISTRIBUTED SOLAR PHOTOVOLTAICS 5 (Laurie Guevera-Stone ed., 2014), <http://perma.cc/DM72-L6ZJ>.

133. See *id.* ("[R]educing solar's upfront capital cost to achieve low cost deployment onto the grid—without accounting for the operational benefits and costs of integration into the grid—has been a significant solar market development strategy.").

134. See Michael Mendelsohn, *Tapping Underserved Solar Markets: Can We Extend Solar Deployment into Customer Sectors with Lower or No Credit?*, NAT'L RENEWABLE ENERGY LAB. (Apr. 8, 2014), <https://perma.cc/4XTL-CVMU> (noting that the risk involved in leases and PPAs often "restricts deployment [of photovoltaic technology] to those who own their home and have a relatively high credit rating . . .").

135. Bryan Phelps, *Why Utility Companies Want You to Pay More for Solar Power*, MOTHER EARTH NEWS (Nov. 4, 2015, 4:30 PM), <http://perma.cc/LTD9-2D2F>.

136. See Rod Kuckro, *Utilities Move to Satisfy Customers' Desire for Distributed Solar*, ENERGY WIRE (Nov. 7, 2014), <http://perma.cc/C6P7-9DU3> (noting that utility companies are gradually embracing distributed solar power to satisfy customers' desires) (on file with the Vermont Journal of Environmental Law).

137. *Id.*

138. *Id.*

139. HAW. PUB. UTIL. COMM'N, INSTITUTING A PROCEEDING TO ESTABLISH AND IMPLEMENT AN ON-BILL FINANCING PROGRAM, 2014-2019 1-2 (2014).

140. *Green Financing / On-Bill Financing*, BLUE PLANET FOUND., <http://perma.cc/FN96-WCL3> (last visited Oct. 28, 2015).

bill financing plan, the utility obtains financing (from private funding sources) to pay solar companies upfront for installation on a customer's roof.¹⁴¹ These solar installations "immediately reduce energy consumption," which in turn lowers the customer's monthly energy costs.¹⁴² Finally, "[a] portion of the monthly savings is applied to repaying the loan, which will appear as an item on the customer's bill."¹⁴³ Once the installation has been paid for, the payments discontinue.¹⁴⁴ On-bill financing is essentially the way utilities have traditionally financed power plants.¹⁴⁵ Hawaii's on-bill financing plan allows utilities and solar companies to work together, and because utilities can generally obtain financing easily, it also opens up the market to those customers who don't have high credit scores.¹⁴⁶ Further, "[a] 'one bill' mechanism could also reduce the overall administrative costs of managing two billing systems and help protect against customer default."¹⁴⁷ Hawaii's financing structure, and systems like it, could increase the value of solar power and smooth out the seemingly bumpy road utilities must traverse if they are to become stewards of the smart grid.

Once utilities and solar companies are working together, they can further increase the value of distributed solar generation by aggregating customer data and developing and integrating complementary technologies.¹⁴⁸ As technology becomes available, utilities are increasingly becoming reliant on information gathered from the grid to increase efficiency.¹⁴⁹ Utilities across the nation are integrating smart meters into the grid, which provide real-time usage and pricing data to both the utility and the customer.¹⁵⁰ Smart meters are an essential element of the smart grid because they sustain the requisite

141. *Id.*

142. *Id.*

143. *Id.*

144. *Id.*

145. *Id.*

146. By leveraging a AAA rating and low utility customer default rates, [Hawaii] can attract lower cost capital and allow more residents to benefit from clean energy improvements. *Id.* Further, "the on-bill payments give funders a higher certainty of reimbursement because customers tend to pay their electricity bills." Herman K. Trabish, *Hawaii Regulators Kick Off Financing Programs for Rooftop Solar, Energy Efficiency*, UTIL. DIVE (June 5, 2014), <http://perma.cc/94SK-9PQQ>.

147. BELL, *supra* note 132, at 21.

148. *Id.* at 20–27.

149. See *Smart Grid*, DEP'T OF ENERGY, <http://perma.cc/BH9B-P5N9> (last visited Dec. 3, 2014) (stating that utilities are beginning to integrate two-way communication technology to the grid, and noting that these technologies result in "big improvements in energy efficiency on the electricity grid and in the energy users' homes and offices").

150. PLANS & PROPOSALS, INST. FOR ELECTRICAL EFFICIENCY, UTILITY SCALE SMART METER DEPLOYMENTS 1–2 (2012).

two-way flow of information.¹⁵¹ But they also produce information that can help determine locations where solar will be most effective and produce the most value.¹⁵² When utilities and solar companies share customer data (such as electricity consumption, site suitability, and which customers are interested), they can more readily identify the locations where solar power will be the most productive.¹⁵³

The sooner utilities and solar companies start to work together, the faster technology will develop to solve the technological problems of the system. Although it has the potential to produce a significant percentage of energy in the United States, distributed solar is not without practical and technological issues that must be solved if this potential is to be realized. The most pressing issue is whether a grid that relies on a high percentage of distributed solar sources would be reliable. For instance, what happens when the sun is not shining? Utilities fear that sharp increases in energy demand in the late afternoon when solar is no longer effective will require “a lot of standby power from expensive to operate, rapid-response power plants.”¹⁵⁴ Pairing solar generation with energy storage can solve this issue.¹⁵⁵ Although there are efforts to improve the technology, renewable energy/storage hybrid systems are already being used in some parts of the country, and they are saving money.¹⁵⁶ There are also questions of what happens to produced solar power when there are sudden grid disconnections and the power has nowhere to go.¹⁵⁷ Utilities fear that disconnections on grids with high-penetration percentages of rooftop solar could cause dangerous voltage spikes that could potentially damage utility and customer equipment.¹⁵⁸ Promisingly, this issue is being tackled by a research partnership between a utility, a solar power company, and a renewable energy laboratory (funded by the U.S. Department of Energy).¹⁵⁹ Hawaiian Electrical Company (“HECO”) has entered into a research partnership with SolarCity and the National Renewable Energy Laboratory (“NREL”) to study reliability of grid systems with high penetration percentages of rooftop solar projects.¹⁶⁰ The

151. See *id.* (noting that smart meters provide useful data to both the utility and its customers); see also Miller, *supra* note 131, at 131 (describing the smart grid as requiring two-way flow of information).

152. BELL, *supra* note 132, at 20.

153. *Id.*

154. Farrell, *supra* note 27.

155. Daniel Cusick, *Multiple Projects Show that ‘Hybrid’ Renewable Energy and Battery Storage Systems May Become the Power Plants of the Future*, ENERGYWIRE (Dec. 1, 2014), <http://perma.cc/F4FV-RRJL> (on file with the Vermont Journal of Environmental Law).

156. *Id.*

157. Gavin Bade, *How the HECO-SolarCity Partnership is Turning Rooftop Solar into a Grid Asset*, UTIL. DIVE (Dec. 2, 2014), <http://perma.cc/56X4-Y852>.

158. *Id.*

159. *Id.*

160. *Id.*

partnership between HECO, SolarCity, and NREL, and initiatives like it, will spur the growth of technology required to make the smart grid a reality.

CONCLUSION

The decision in *SZ Enterprises* will spur growth of distributed solar power in Iowa and is likely to have a similar effect in other states. Diverse financing methods, tax incentives, net metering, pro-solar cases, regulatory decisions, and legislation will continue to drive the trend toward distributed generation of power. Use of PPAs, and distributed generation in general, have led to specifically tailored regulations and legislation. Widespread use of distributed generation could even shift energy infrastructure from a centralized to a distributed approach. There are still many barriers blocking a shift towards distributed generation. In *SZ Enterprises*, the Iowa Supreme Court has removed one of those barriers.

As more barriers are removed, the existing regulatory structure continues to be challenged and must evolve. If public utilities do not respond to the growing trend toward distributed solar generation, they are likely to experience some of the negative effects the industry predicted might happen (e.g., cost-shifting for customers without solar and grid reliability issues). Decisions like *SZ Enterprises* that affirm an individual's right to generate their own power, whether they arise in the form of other cases, regulatory decisions, or legislation, serve as signals to public utilities that fighting the trend of distributed solar generation may be a lost cause, and that it is increasingly and strategically beneficial to integrate distributed generation. Once utilities reach this conclusion and begin to work with solar companies, the true potential of distributed solar can be realized. The continued expansion of distributed generation is a major step toward the realization of the smart grid. If the smart grid is to become a reality, it is likely that public utilities will have to find a way to evolve from generation, transmission, and distribution entities into grid management and maintenance specialists.