THREE STEPS TO A GREENER TOMORROW: ENCOURAGING SOLAR ENERGY DEVELOPMENT IN THE SUNSHINE STATE

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I. INTRODUCTION

The majority of electricity in the United States is produced using fossil fuels.[1] Burning these fuels emits greenhouse gases and other conventional pollutants that are harmful to human health and the environment.[2] Additionally, the extraction of these fuels can produce environmental and economic harms.[3] The impacts of fossil fuels and renewable alternative fuels are particularly important in Florida, where national and international choices of fuels can contribute to or lessen climate change impacts, and thus influence the pace of climate change and associated sea level rise.

Fuel choice is a substantial driver of climate change because burning fuels to generate electricity emits large quantities of greenhouse gases, such as carbon dioxide, methane, and nitrous oxide.[4] In 2014, 84% of U.S. greenhouse gases were energy related

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1. Adam Sieminski, *Fuels Used in Electricity Generation*, U.S. NUCLEAR INFRASTRUCTURE COUNCIL 2 (June 5, 2013), www.eia.gov/pressroom/presentations/sieminski_06052013.pdf.

2. U.S. ENERGY INFO. ADMIN., WHAT ARE GREENHOUSE GASES AND HOW MUCH ARE EMITTED BY THE UNITED STATES?, http://www.eia.gov/energy_in_brief/article/greenhouse_gas.cfm (last visited June 21, 2016) [hereinafter EIA Greenhouse Gases].

3. Bernadette Del Chiaro & Rachel Gison, *Government's Role in Creating a Vibrant Solar Power Market in California*, 36 GOLDEN GATE U. L. REV. 347, 349 (2006).

4. EIA Greenhouse Gases, *supra* note 2.

and 92% of those emissions were carbon dioxide released from fossil fuels.[5] The buildup of these gases "trap[s] heat from the sun and warm[s] the planet's surface" causing climate change.[6] Climate change can result in warmer temperatures, longer droughts, and more severe storms as well as rising seas.[7] Addressing the climate change problem is difficult for two reasons: first, the global nature of the problem creates a tragedy of the commons scenario, where we are "locked into a system of fouling our nest;"[8] and second, it is difficult for scientists to pinpoint specific events that are the result of climate change, leading many to write off climate change as a future problem. However, it is important to recognize that climate change is affecting us currently; shifting climate conditions are creating dangers for humans and the environment.[9] For example, ten of the hottest years on record since the systematic recording of U.S. temperatures began in the 1880s, have occurred since 1998.[10] Warmer temperatures can lead to an increase in frequency of destructive forces such as wildfires and tornadoes; while warmer ocean temperatures have been cited as a contributing factor to the creation of superstorms, like the recent Superstorm Sandy that caused losses of more than fifty billion dollars in 2012.[11]

In addition to greenhouse gases, burning fossil fuels also emits air pollutants, such as fine particulate matter and sulfur dioxide (a precursor of acid rain), which are dangerous to humans and the environment alike.[12] These pollutants are harmful to humans because they are linked to asthma, lung damage, and an increased risk of cancer.[13] The environment suffers as a result of acid rain, which is harmful to trees, vegetation, and aquatic life.[14]

Lastly, the continued need for fossil fuels and the pursuit of ever dwindling reserves can lead to the destruction of pristine wilderness, crucial wildlife habitat, and delicate ecosystems.[15]

The burning and extraction of fossil fuels could have particularly large impacts on Florida, which has a population of nearly twenty million people and is the third most populated state in the

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5. *Id.*
6. *Id.*
7. U.S. ENVTL. PROT. AGENCY, CLIMATE CHANGE INDICATORS IN THE UNITED STATES (2014), www.epa.gov/climatechange/indicators.
8. Garrett Hardin, *The Tragedy of the Commons*, 162 SCI. 1243, 1245 (1968).
9. Howard A. Latin, *Climate Change Mitigation and Decarbonizaiton*, 25 VILL. ENVTL. L.J. 1, 4 (2014).
10. *Id.* at 3.
11. *Id.*
12. ROBERT L. GLICKSMAN ET AL., ENVIRONMENTAL PROTECTION LAW AND POLICY 392 (Vicki Been et al. eds., 6th ed. 2011).
13. *Id.*
14. *Id.*
15. *See* Chiaro & Gison, *supra* note 3.

United States.[16] Florida also contributes to climate change because it relies heavily on fossil fuels to provide electricity to its populace; 62% of its net generation of electricity is provided by natural gas and another 21% is provided by coal.[17] One problem with Florida's reliance on natural gas is the way in which it is produced. Natural gas is mined using a process called hydraulic fracturing.[18] This process is performed by injecting water, sand, and chemicals underground at high pressure; the pressure fractures the shale rock formation and releases trapped natural gas.[19] In Florida, natural gas exploration of the Sunniland Trend, a geological formation stretching from Fort Myers to Miami, may require fracturing, and many Floridians are concerned.[20] Fracturing poses risks, including "well blowouts, surface leaks, and insufficient wastewater recycling."[21] The land covering the Sunniland Trend is composed of the sensitive Everglades, which is home to more than sixty threatened and endangered species, and the targeted rock provides drinking water for millions of Florida residents.[22] In addition to this onshore formation, scientists believe that large oil and gas deposits are located off Florida's western coast.[23] Tapping into these resources could lead to the use of large, unsightly drilling rigs, which could harm Florida's tourism-based economy and degrade the marine environment.

The problems surrounding natural gas support environmental groups' descriptions of "natural gas as [a] bridge fuel to a cleaner energy future with an increasing use of renewable wind and solar energy."[24] The idea behind renewable energy is to be able to produce electricity from a sustainable, nonfinite source of energy.[25] Wind turbines and solar panels use sustainable, nonfinite resources such as wind and sunlight to create electricity.[26] Unlike

16. U.S. CENSUS BUREAU, FLORIDA QUICKFACTS (July 2014), http://quickfacts.census.gov/qfd/states/12000.html (last visited May 11, 2016).

17. U.S. ENERGY INFO. ADMIN., STATE PROFILE AND ENERGY ESTIMATES: FLORIDA, http://www.eia.gov/state/?sid=FL (last visited May 11, 2016) [hereinafter EIA Florida Profile].

18. Terry W. Roberson, *Environmental Concerns of Hydraulically Fracturing a Natural Gas Well*, 32 UTAH ENVTL. L. REV. 67, 67 (2012).

19. *Id.*

20. Victoria Bekiempis, *Oil Prospectors Seek Their Next Big Strike in South Florida's Everglades*, NEWSWEEK, Feb. 27, 2014, http://www.newsweek.com/2014/02/28/oil-prospectors-seek-their-next-big-strike-south-floridas-everglades-245596.html.

21. Roberson, *supra* note 18, at 68.

22. Bekiempis, *supra* note 20.

23. EIA Greenhouse Gases, *supra* note 2.

24. Roberson, *supra* note 18, at 68.

25. Nat. Res. Def. Council, *Increase Renewable Energy*, http://www.nrdc.org/energy/renewables/ (last visited Feb. 10, 2016) [hereinafter NRDC *Renewable Energy*].

26. *Id.*

traditional fossil fuels, these fuel sources are free[27] and their use does not emit greenhouse gases or other air pollutants.[28] According to the U.S. Energy Information Administration, renewable electricity markets are expected to grow consistently over the next several years.[29] In fact, in his second inaugural address President Obama called for the United States to lead the transition to sustainable energy.[30]

Florida policymakers have recognized that "it is in the public interest to promote the development of renewable energy resources."[31] One promising form of renewable energy available in Florida is solar power.[32] However, despite being called the 'Sunshine State', Florida has yet to harness its abundance of solar energy.[33] Florida ranks third in the nation for solar potential but lags behind at fourteenth for cumulative solar capacity installed.[34] Solar installations can generate electricity on two different scales: large-scale, through the use of solar farms; or on a distributed-scale, using small rooftop systems on homes, businesses, and government buildings.[35] In 2009 and 2010, Florida Power & Light launched three solar power plants, making Florida the second largest producer of utility-scale solar power in the nation.[36] However, utility-scale power is very land intensive and requires new infrastructure to be built.[37] Also, the siting of plants can raise many issues, such as impacts on the environment and aesthetic concerns, which must be considered by the Public Service Commission when deciding whether to approve an installation and how to regulate it as a utility.[38] Rooftop solar installations, however, avoid many of these problems and create benefits in addition to reducing

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27. *See generally infra* Part III. Although wind and sunlight cost nothing, entities who wish to capture renewable energy must invest in infrastructure like solar panels or wind turbines, which despite rapidly decreasing costs, still present a non-negligible expense.

28. NRDC *Renewable Energy*, *supra* note 25.

29. U.S. ENERGY INFO. ADMIN., ANNUAL ENERGY OUTLOOK 2015 (2015), http://www.eia.gov/forecasts/aeo/.

30. Latin, *supra* note 9, at 4.

31. FLA. STAT. § 366.91 (2014).

32. SOLAR ENERGY INDUS. ASS'N, FLORIDA SOLAR, http://www.seia.org/state-solar-policy/florida (last visited May 6, 2016).

33. *Id.*

34. *Id.*

35. *See* U.S. DEP'T OF ENERGY, GLOSSARY OF ENERGY-RELATED TERMS: DISTRIBUTED GENERATION U.S. DEP'T OF ENERGY, http://energy.gov/eere/energybasics/articles/glossary-energy-related-terms#D (last visited May 6, 2016); U.S. DEP'T OF ENERGY, PHOTOVOLTAIC SYSTEM PRICING TRENDS 13 (2014), https://emp.lbl.gov/sites/all/files/presentation_1.pdf [hereinafter DOE Pricing Trends] (defining utility-scale PV systems).

36. Nat. Res. Def. Council, *Renewable Energy for America – Florida*, http://www.nrdc.org/energy/renewables/florida.asp (last visited Apr. 1, 2015).

37. *See generally* Uma Outka, *Siting Renewable Energy: Land Use and Regulatory Context*, 37 ECOLOGY L.Q. 1041, 1070-72 (2010) (discussing the legal framework for siting large-scale PV facilities).

38. *Id.* at 1058-60.

greenhouse gas emissions, air pollution, and the destruction of sensitive environmental areas.

Despite the benefits of distributed solar generation, large-scale utilities that enjoy a regulated monopoly status in Florida tend to oppose this type of generation — in part because they view it as competing with their business — whereas Florida policymakers note the importance of distributed resources.

This note analyzes the Florida energy market and suggests ways in which Florida can better stimulate the growth of distributed solar power. Part II discusses distributed solar energy generation. Part III analyzes different methods of overcoming the costs of solar generation. Part IV examines various obstacles to installation and implementation that solar power faces, including variable permitting requirements and local zoning codes. Finally, Part V suggests a three-step comprehensive approach to amend Florida's solar energy policy in order to encourage the development of distributed solar power.

II. DISTRIBUTED SOLAR ENERGY GENERATION

A. Benefits of Distributed Solar Resources

Distributed rooftop solar installations provide a range of benefits. First, these installations do not require a developer to acquire a large amount of land. Large utility-scale renewable installations often must acquire land from many different entities including the federal government, local governments, private landowners, and tribal landowners. The negotiation of these contracts, possible use of eminent domain proceedings, and the objections of nearby residents often draw out the land acquisition process and can put off an installation for years.[39] However, rooftop solar installations are much simpler because they only require one party, the private owner, to consent to the installation. Therefore, distributed solar electric systems can be installed quickly, without lengthy negotiations or court battles.

Secondly, unlike large-scale solar farms, rooftop solar electric systems do not require the installation of supporting infrastructure like transformers and transmission lines.[40] When solar panels

39. *See, e.g.,* Ten Taxpayer Citizens Grp. v. Sec'y Office of Envtl. Affairs, 24 Mass. L. Rptr. 539, 1 (Mass. Super. Ct. 2008) (challenging issuance of a Final Environmental Impact Report Certificate for proposed commercial wind energy facility); Pub. Emps. for Envtl. Responsibility v. Beaudreau, 25 F. Supp. 3d 67, 77 (D.D.C. 2014) (challenging administrative decisions approving various aspects of offshore wind energy project).

40. Troy A. Rule, *Renewable Energy and the Neighbors*, 2010 UTAH L. REV. 1223, 1237 (2010).

are added to existing buildings currently powered by local utilities, the infrastructure is already there to connect to the grid, and the solar developer need only conduct some rewiring and install an inverter within the building. Also, communities installing rooftop solar electric systems are spared the disruption associated with construction crews installing unsightly above-ground lines or expensive below-ground lines. Therefore, distributed solar power has the benefit of not requiring the costly construction of new infrastructure, which also faces many of the same land acquisition problems and objections from nearby residents faced by the plant itself.

When the point is reached that solar power systems become so popular that they are on the majority of buildings, the grid may require new infrastructure to accommodate the flow of excess electricity from buildings back into the grid. When this time comes, it is likely that residents will have fully recognized the benefits of solar energy and will be less likely to object to the siting of the infrastructure. Additionally, because the solar industry will have time to develop its associated technology, it is likely that the necessary infrastructure will be smaller, more efficient, and less objectionable then the infrastructure of today.

Third, distributed rooftop solar power systems have the ability to increase reliability of the electric grid. The transmission system in operation today is outdated — it is prone to black outs and shortages.[41] The system is even more prone to problems during peak demand. At peak times, transmission lines may lack adequate capacity to handle the increased demand, forcing grid managers to curtail electricity deliveries to certain sources.[42]

Distributed rooftop solar energy installations are able to reduce peak demand,[43] decrease transmission line congestion, and increase efficiency. Solar energy is most prevalent during midday, which is the time when solar electric systems produce the most electricity. In Florida at midday, temperatures are highest and air conditioners demand high quantities of electricity from local utilities.[44] Energy produced by solar electric systems at midday can offset the increase in demand for electricity, reducing the need for curtailment to meet peak demand needs. Solar power systems can

41. Melissa Powers, *Small is (Still) Beautiful: Designing U.S. Energy Policies to Increase Localized Renewable Energy Generation*, 30 WIS. INT'L L.J. 595, 617 (2012).

42. *Id.*; Curtailment, in the electricity context, means the temporary reduction in the amount of electricity delivered to customers or the temporary stopping of the flow of electricity to certain customers.

43. However, it should be noted that peak demand does not perfectly coincide with peak solar generation. Solar generation is limited by the availability of sunlight, whereas peak demand is not.

44. Rule, *supra* note 40, at 241.

also prevent the need for "peaker" power plants to be turned on, which are typically less efficient than non-peak plants.[45] Solar power systems can also increase efficiency from onsite generation. Onsite generation can reduce the need for electricity to travel from a centralized utility, which will decrease congestion in the transmission lines, and also prevent the need for curtailment.[46]

Next, rooftop solar electric systems can increase reliability of the electric grid by making it less susceptible to grid outages as a result of severe weather or terrorist attack.[47] If solar panels are properly "islanded" from the grid, meaning that they can keep operating even if the rest of the grid is disabled, consumers will still be able to have electricity.[48] This means that schools, businesses, government offices, and homeowners with solar power systems will continue to have power in the event of an emergency.

Finally, electricity provided by solar electric systems gives consumers more control over their power bill. Consumers can choose to carry out energy intensive activities during periods when their solar panels are most productive, thereby reducing their reliance on electricity produced by their local utility and lowering their bill.[49] Also, through the use of their solar electric systems, solar energy consumers can better avoid the volatile costs of fossil fuels by increasing their reliance on solar energy.[50]

B. Opposition to Distributed Solar Energy Generation and Resulting Barriers

Despite their many benefits, distributed solar installations are strongly opposed by Florida's utilities who fear any change to the monopoly that they currently enjoy. Under Florida's monopolistic system, each utility receives its own service area free from competition.[51] The industry is closely regulated, and rates are set by

45. Suedeen G. Kelly, *Chapter Twelve: Electricity*, *in* ENERGY LAW AND POLICY FOR THE 21ST CENTURY 1 (2000). Electric utilities have "base load plants" which are operated at a constant output to serve the minimum demand on the system. Electric utilities also maintain "peaker plants" to meet the maximum demand on its system. Utilities use their most efficient and least expensive power plants first to meet base load and their more expensive plants to meet peak load.

46. *See generally* John V. Barraco, *Distributed Energy and Net Metering: Adopting Rules to Promote a Bright Future*, 29 J. LAND USE & ENVTL. L. 365, 385-86 (2014).

47. *Id.* at 385.

48. *Id.* at 386.

49. *See generally infra* Part III. Net metering laws allow existing utility customers to lower their overall electricity bills, and, in some states earn a profit by selling electricity back to the utility for credit towards their bill.

50. FLA. STAT. § 366.91 (2014).

51. *See* FLA. STAT. § 366.03 (2014) ("Each public utility shall furnish to each person applying therefor reasonably sufficient, adequate, and efficient service.").

Florida's Public Service Commission ("PSC").[52] The rates allow for utility recovery of all costs involved in generating, transmitting, and distributing electricity, as well as a reasonable return on the utility's investments. [53] Utility arguments against distributed generation generally arise out of their concern for their bottom line and feigned concern for low-income ratepayers.[54] Vertically integrated utilities fear the loss of their monopolistic powers and argue that they must bear the cost of policies such as net metering.[55] Utilities claim that the end result of distributed generation and its accompanying policies is that low income ratepayers are forced to subsidize the renewable energy systems purchased by wealthier ratepayers.[56]

However, these arguments are flawed, especially with reference to rooftop solar power. Due to the limited nature of sunlight, solar power is unable to completely replace local utilities.[57] Actually, solar power is able to supplement utility power during periods of peak demand. This ability not only prevents utilities from having to fire up their more expensive and less efficient "peaker" plants but can actually save ratepayers money that they would lose as a result of blackouts and electricity shortages.[58] Net metering policies and power purchase agreements, discussed in more detail below, can be tailored in a way to ensure that a utility is not overly burdened by costs. Indeed, the Iowa Supreme Court considering the economic health of utilities in *Iowa Board of Utilities*[59] found no evidence that regulated utilities were adversely affected in states where the use of power purchase agreements was prevalent.[60] Finally, while the cost-shifting concern may be legitimate, it can be overcome with properly designed programs that require net metered customers to cover the slightly higher distribution costs associated with their activities.

Despite opposition by incumbent utilities, Florida policymakers have recognized that "it is in the public interest to promote the

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52. *Id.*; FLA. STAT. § 366.04 (2014).

53. *See generally* Sam D. Bolstad, *Your Local Solar Panel Store: Developing State Laws to Encourage Third-Party Power Purchase Agreements and Distributed Generation*, 99 MINN. L. REV. 705, 709-12 (2014) (discussing the monopolistic nature of most modern utility regulation).

54. Powers, *supra* note 41, at 646-47.

55. *Id.* at 647.

56. *Id.*

57. *Id.*

58. *See generally* William H. Lawrence & John H. Minan, *Financing Solar Energy Development through Public Utilities*, 50 GEO. WASH. L. REV. 371, 379 (1982) (discussing a utility's ability to benefit financially from integrating solar energy applications with their service).

59. SZ Enters., LLC. v. Iowa Utils. Bd., 850 N.W.2d 441, 468 (Iowa 2014).

60. Bolstad, *supra* note 53, at 723.

development of renewable energy resources in this state."[61] They have also recognized that solar power has great potential for success and have committed to creating incentives for solar development while identifying and removing obstacles in its path.[62]

However, Florida's current monopolistic power system still creates problems for distributed solar and has severely stunted its growth. In 2014 distributed solar power accounted for less than 2.3% of Florida's total net electricity generation.[63]

III. OVERCOMING THE COSTS OF SOLAR GENERATION

Despite utility opposition, a small but growing number of customers are installing rooftop solar power systems in Florida. To further expand distributed solar, utility customers will need to take advantage of financial benefits for solar power provided by local, state, and national policies, and certain laws must change to make installation less difficult. This Part discusses how customers can use certain financing mechanisms and policy benefits to lower the costs of installing distributed solar technologies, and Part IV explores how policies might need to change in order to further support distributed solar.

The most common type of distributed solar power system is a photovoltaic ("PV") system. Groups of photovoltaics (solar cells) convert sunlight into electricity, which can power appliances and operate interconnected to the utility grid, with proper power conversion equipment.[64] Consumers hoping to add solar power to their home or business must first decide what size system is needed based on the rooftop space available, amount of sunlight per day, and daily energy consumption.[65] The high upfront cost of a PV system is an obstacle that must be overcome if solar development is to thrive. There are a number of ways to obtain a PV system with varying costs and degrees of consumer involvement.

First, the consumer can simply buy the system outright. According to the U.S. Department of Energy, the price of residential and commercial PV systems has fallen on average 6-8% per year since 1998.[66] Prices are expected to continue to decline as solar energy grows in popularity and solar energy technology continues

61. FLA. STAT. § 366.91 (2014).

62. FLA. STAT. § 377.705 (2014); FLA. STAT. § 288.0415 (2014).

63. EIA Florida State Profile, *supra* note 17.

64. Florida Solar Energy Ctr., *Current PV Technology*, http://www.fsec.ucf.edu/en/consumer/solar_electricity/basics/current_technology.htm (last visited May 7, 2016).

65. *See* Adam L. Massaro, *Solar Power for Commercial Buildings*, 24 PROB. & PROP. MAG. 12, 13 (2010).

66. DOE Pricing Trends, *supra* note 35, at 8.

to develop.[67] Despite this trend, the cost of a PV system is still a problem for many consumers, especially when savings are only seen in small increments over time.[68] In addition to the high up-front cost, consumers electing to purchase a system outright must also assume the responsibility of obtaining permits to install the system, have the system inspected before it becomes operational, negotiate an interconnection agreement with the local utility to connect to the grid, and maintain the system.[69]

The benefits of owning a system outright include: a quicker return on investment when no third-party is involved, exemption from regulation as a utility, and the freedom to sell either the building, the system, or both. Consumers that purchase their system outright can mitigate their costs by electing to install a small system and then adding panels in the future, in addition to taking advantage of federal and state tax incentives.[70]

Building owners are encouraged to acquire and install PV systems through federal and state tax credits, tax deductions, and grants.[71] These government programs are meant to create more instances where benefits of a solar power system to the building owner will exceed its costs.[72] While these programs do provide some benefits there have been administration issues and problems estimating how people will respond to the incentives.[73] Tax credits are especially beneficial to corporations because they are in the highest tax bracket, but they have greatly reduced benefits to individuals in low tax brackets.[74] Also, interest rate deductions do not reach those who do not require debt to purchase the systems and the over subscriptions for grants have led to lotteries and other inefficient methods of allocating resources.[75]

For those who cannot purchase a system outright, funding is available through the Property Assessed Clean Energy ("PACE") program which is designed to provide financing to building owners

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67. *See id.*

68. *See generally* Massaro, *supra* note 65, at 13-17. Electricity provided by a PV system lessens the amount of electricity that must be purchased from the local utility. However, the savings on a building owner's electric bill each month can be small when compared with the cost of purchasing a PV system, therefore it may take several months or years to recover a building owner's original investment.

69. CALIFORNIA ENERGY COMM'N, BUYING A PHOTOVOLTAIC SOLAR ELECTRIC SYSTEM: A CONSUMER GUIDE 10-13 (2003), http://www.energy.ca.gov/publications/displayOneReport.php?pubNum=P500-03-014F.

70. Massaro, *supra* note 65, at 15.

71. Warren G. Lavey, *Overcoming Conceptual and Practical Hurdles to Market-Based Discovery of Prices for Utility Procurements from Rooftop Solar Systems*, 25 TU. ENVTL. L.J. 289, 298 (2012).

72. *Id.*

73. *Id.* at 302.

74. *Id.*

75. *Id.* at 303.

who want to make their buildings more energy efficient.[76] PACE will fund many programs, including solar panels, and allow building owners to pay back the loan over a period of up to twenty years through an assessment added to their property taxes.[77] The assessment is transferable to a new owner if the building is sold and can be shared with tenants under most leases.[78] Additionally, PACE programs do not require the building owner to have a specific credit rating to qualify and interest paid on the loan is deductible.[79] The program is especially beneficial because municipal and county bonds enjoy a tax-free status that allows governments to obtain low interest rates which can be passed on to property owners.[80] However, the program is currently not very beneficial to residential property owners due to push back from Fannie Mae and Freddie Mac, two federal home financing agencies, who have refused to purchase mortgage loans for homes that carry first priority PACE debt.[81] The agencies' issues stem from the priority given to PACE loans over mortgages.[82]

Florida passed its PACE enabling statute in 2010.[83] So far, five PACE programs have been formed: Florida Green Energy Works program, Florida PACE Funding Agency Program, Clean Energy Green Corridor, St. Lucie County's Commercial PACE Program, and Leon County Commercial PACE Program.[84] However, progress has been slow and in some cases stalled due Fannie Mae's and Freddie Mac's position taken only several months after Florida enacted its PACE statute.[85] In spite of this setback, PACE programs

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76. PACENation, *What is PACE?*, http://www.pacenation.us/about-pace/ (last visited Mar. 18, 2016).

77. *Id.*

78. *Id.*

79. *Id.*

80. Jason R. Wiener & Christian Alexander, *On-Site Renewable Energy and Public Finance: How and Why Municipal Bond Financing is the Key to Propagating Access to On-Site Renewable Energy and Energy Efficiency*, 26 SANTA CLARA COMPUTER & HIGH TECH. L.J. 559, 574-82 (2010).

81. Lilly Rockwell, *Florida's Energy Efficiency PACE Program Remains Stalled*, TAMPA BAY TIMES, Nov. 22, 2013, http://www.tampabay.com/news/business/energy/floridas-energy-efficiency-pace-program-remains-stalled/2153783.

82. Doreen Hemlock, *PACE Loan Program for Home Energy Improvements Stalled*, SUN SENTINEL, Jan. 9, 2015, http://www.sun-sentinel.com/business/personal-finance/fl-pace-financing-update-20150109-story.html; FANNIE MAE, SELLING GUIDE: B5-3.4-01 PROPERTY ASSESSED CLEAN ENERGY LOANS (Mar. 31, 2015), https://www.fanniemae.com/content/guide/selling/b5/3.4/01.html. PACE loans share senior lien status with other property taxes and assessments. This means that a PACE loan will be repaid before a mortgage. The Federal Housing Finance Agency ("FHFA") advised Fannie Mae and Freddie Mac to avoid buying mortgages with PACE assessments because it makes investment riskier.

83. FLA. STAT. § 163.08 (2014).

84. PACENation, *List of PACE Programs*, http://www.pacenation.us/resources/all-programs/ (last visited Mar. 5, 2016).

85. Patricia Salkin, *The Key to Unlocking the Power of Small Scale Renewable Energy: Local Land Use Regulation*, 27 J. LAND USE & ENVTL. L. 339, 350 (2012).

have continued forward focusing on the commercial building side to avoid entanglement with Freddie Mac and Fannie Mae.

Building owners wishing to obtain a PV system, but wanting to limit their involvement with the system, may elect to enlist a third-party solar power developer. Third-party solar power developers can provide PV systems to consumers through two mechanisms: a solar lease, and a power purchase agreement ("PPA").

Under a solar lease, the third-party owns the equipment and is responsible for owning and maintaining the system.[86] The lessee, or building owner, owns all electricity generated by the system.[87] If state law allows, the lessee may sell excess electricity to the local utility in return for a credit on their electric bill.[88] The solar lease benefits the building owner because it shifts the costs of obtaining, maintaining, and operating the system to the third-party developer.[89] However, lessees must be vigilant and read leases carefully for terms that may increase their payment or terminate their lease.[90] Also, building owners should note that they are still responsible for negotiating with the local utility for the surplus sale of electricity.

Similar to a solar lease, a PPA is an agreement between a building owner and a third-party solar developer.[91] The developer owns, finances, and maintains the PV system and is able to obtain tax credits for these activities.[92] Unlike a solar lease, a PPA grants ownership of the electricity generated by the PV system to the solar developer. The PPA requires the building owner to purchase all of the electricity produced by the system, which the developer sells at a discounted rate for a period of years, usually no more than twenty. It is only at the end of the contract that the consumer becomes the sole owner of the rights to the electricity.[93] Like with a solar lease, the building owner remains connected to the grid. This connection allows the consumer to purchase electricity from their local utility when their PV system does not generate enough electricity to meet their needs, as well as sell excess electricity to the utility through net metering. Also, unlike with a solar lease, the building owner does not have to negotiate the agreement for the sale of electricity to the utility, this is done by the third-party solar developer. One downside to the PPA is that energy savings are generally less than if the PV system was owned outright.

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86. Massaro, *supra* note 65, at 15.
87. *Id.*
88. *Id.* at 15-16.
89. Wiener & Alexander, *supra* note 80, at 566-67.
90. *Id.* at 567.
91. *Id.*
92. Bolstad, *supra* note 53, at 716-17.
93. *Id.* at 718.

As a result of the landmark decision by the Florida Supreme Court in *PW Ventures*, Florida regulates generators that provide electricity through PPAs as utilities. This effectively prohibits PPAs due to the high costs associated with being regulated in this way.[94] PW Ventures proposed to own and operate a cogeneration project and sell the electricity to an industrial complex through a long-term contract. [95] Prior to construction, PW Ventures sought a declaratory judgment from the PSC that it would not be a public utility subject to PSC regulation. The PSC found that the proposed transaction was within its regulatory jurisdiction, and PW Ventures appealed.[96] The court examined the definition of "public utility" and found that the phrase "to the public" means to any member of the public.[97] The court also found persuasive the lack of a specific statutory exemption for small electricity providers from classification as a utility that existed for small providers of natural gas, water, and sewer.[98] Based on the language of the statute and the *expressio unius* canon of statutory construction (the express mention of one thing implies the exclusion of another) the court concluded that the PSC was correct in finding that the transaction between PW Ventures and the industrial complex fell within its jurisdiction.[99]

The holding in *PW Ventures* has been praised by utilities who seek to guard their monopoly.[100] The holding serves as a barrier to solar development because it removes a mechanism by which building owners can obtain a PV system without the high upfront costs or financing issues involved with an outright purchase. Legal scholarship has both praised the PPA as a way of unleashing solar potential[101] and called for the overruling of *PW Ventures* by statutory amendment.[102] Also, a group of Florida citizens has come together in a grassroots effort to advocate for legislation to overturn the court's *PW Ventures* decision.[103] The group seeks signatures for a petition that will place a constitutional amendment on the ballot which will exclude local solar electricity suppliers from the defini-

94. *See* PW Ventures, Inc. v. Nichols, 533 So. 2d 281, 282 (Fla. 1988).

95. *Id.*

96. *Id.*

97. *Id.* at 283; Fla. Stat. § 366.02(1) (1985).

98. *PW Ventures*, 533 So. 2d at 283; Fla. Stat. § 366.02(1) (1985); Fla. Stat. § 367.021 (1985).

99. *PW Ventures*, 533 So. 2d at 283.

100. *See* Sanford Schneider, *It's Time to Revisit PW Ventures, Inc.*, FLA. B.J., Oct. 1992 at 67.

101. Samuel Farkas, *Third-Party PPAs: Unleashing America's Solar Potential*, 28 J. LAND USE & ENVTL. 91 (2012).

102. Schneider, *supra* note 100, at 71.

103. FLORIDIANS FOR SOLAR CHOICE, http://www.flsolarchoice.org (last visited Mar. 15, 2016).

tion of public utility.[104] Additionally, other states have rejected the notion that third-party providers are utilities.[105]

In addition to being able to benefit directly from the electricity produced by a PV system, a building owner can also benefit from selling electricity generated by the PV system to the local utility. There are two main ways in which a state can facilitate the sale between the generator and the utility: net metering and feed-in tariffs. These mechanisms can increase grid reliability and eliminate the possibility of double payment[106] or the need for expensive battery storage systems.

Net metering is a process by which utilities compensate customers for the excess electricity that they generate from rooftop solar panels (electricity not used by the building on which the panels sit) by giving them a credit towards their electricity consumption on their utility bill.[107] The process is beneficial because it pays distributed energy producers retail electricity rates for wholesale power.[108] Many states have net metering programs and the requirements for each vary accordingly.[109] Some states' net metering laws are very limiting, restricting the types and size of eligible facilities in addition to capping the amount of eligible energy.[110]

Net metering is authorized in Florida.[111] The PSC adopted rules for net metering and the interconnection for renewable energy systems up to two megawatts in capacity.[112] PSC rules only apply to investor owned utilities, but require electric cooperatives and municipal utilities to offer their own net metering standards.[113] Different rules for different types of utilities can further complicate the negotiation of an interconnection agreement between the unsophisticated building owner and the utility. The rules also require that net metered customers are not charged any

104. *Id.*

105. SZ Enters., LLC. v. Iowa Utils. Bd., 850 N.W.2d 441, 468 (Iowa 2014) (holding that a company may enter into a long term financing agreement to construct a solar energy system and to sell all electricity generated to the city and not be a public utility subject to regulation by the utilities board.); Farkas, *supra* note 101, at 111.

106. PPA customers must buy all the electricity that their solar power systems produce, but due to the limited availability of sunlight they must also purchase electricity from their local utility. Therefore, without the ability to sell excess electricity back to the utility, building owners would be stuck in a situation where they were paying for more electricity than they actually used, or to say it another way, double paying for the electricity they do use.

107. Powers, *supra* note 41, at 635.

108. *Id.* at 636.

109. *Id.* at 635.

110. *Id.* at 635-36.

111. FLA. STAT. § 366.91 (2014).

112. U.S. ENVTL. PROT. AGENCY, FLORIDA NET-METERING RULES (Aug. 12, 2014), http://www.epa.gov/chp/policies/policies/flfloridanetmeteringrules.html.

113. *Id.*

additional fees and that net excess generation is credited on the customer's utility bill at a retail rate for up to twelve months, at which point remaining net excess generation is paid for at the utility's avoided cost rate.[114] The prohibition against net metered customers paying additional fees can be problematic because it can support the utilities' argument that net metering does not allow them to recover their costs associated with enhancing the operating distribution infrastructure that carries net metered electricity through the grid. Finally, there is no aggregate capacity limit for net metered systems.[115] This is a favorable rule because it allows all qualified generators to net meter and incentivizes the installation of PV systems.

The other option to encourage solar development is the feed-in tariff ("FIT"). This system enacts legislation which requires utilities to accept energy produced by renewable sources first before purchasing the remainder needed from non-renewable sources, and to pay renewable energy generators a fixed rate for electricity.[116] There are two main types of FITs: Gross FITs and Net FITs.[117] Under a Gross FIT, all electricity produced by a PV system is purchased by the utility at a predetermined price and all consumers purchase their electricity from the local utility at market rates.[118] Under a Net FIT, only excess electricity generated by system is purchased by the local utility at the tariff rate.[119] The rate, or tariff, paid by the utility is set high enough that a renewable energy producer is guaranteed a reasonable return on its investment, thereby encouraging further research and development of solar technology.[120] The slightly higher cost of renewable energy is then spread across all consumers of electricity in the area.[121] The cost from the feed-in tariff is generally a small increment and electricity use responds very little to price increase, thereby a feed-in tariff avoids both the spending of tax money and substantial effects on the consumption of electricity.[122]

Despite the fact that, as of 2010, forty-four countries have had success with feed-in tariffs, states in the United States have been slow to adopt them.[123] The problem largely stems from regulatory

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114. *Id.*
115. *Id.*
116. David Grinlinton & LeRoy Paddock, *The Role of Feed-in Tariffs in Supporting the Expansion of Solar Energy Production*, 41 U. TOL. L. REV. 943, 943-44 (2010).
117. *Id.* at 944.
118. *Id.*
119. *Id.*
120. *Id.*
121. *Id.*
122. Michael Dorsi, *Clean Energy Pricing and Federalism: Legal Obstacles and Options for Feed-in Tariffs*, 35 ENVIRONS ENVTL. L. & POL'Y J. 173, 180 (2012).
123. Grinlinton & Paddock, *supra* note 116, at 945.

uncertainty stemming from the fact that federal energy laws may preempt state legislation providing for FITs.[124] This uncertainty scares off potential investors in solar generation technology because the risk of investment is too high, if the Federal Energy Regulatory Commission acts, preempting state FITs, investors could lose everything.[125] However, some states and local governments have risked preemption and enacted FITs.[126]

In 2009, Gainesville, Florida enacted a FIT program modeled after Germany's FIT program, wherein utilities purchased electricity from residential and commercial solar generators at predetermined rates for a period of twenty years.[127] By 2014, the program had encouraged more than eighteen megawatts of solar projects, however, the FIT program had also increased electric bills by $3/month for the average home and, as a result, additions of new systems were suspended in December 2014.[128] Despite business being down locally, Gainesville solar installers are exploring new business avenues. For example, installers have to pursue customers in Gainesville through net metering, they have expanded into new construction sales, and they have looked outside of Gainesville to large-scale solar installations.[129] A solar company executive expressed that he "wish[ed] [the FIT program] had lasted longer and ended more smoothly" but also reported that "we've got enough solar out there, that it's no longer a weird, exotic thing."[130]

Gainesville's program demonstrates that FIT programs can be successful in encouraging investment in solar technology. The increase in production of solar electric systems encourages research and development which makes the cost of production less expensive overtime. However, Gainesville's suspension of the program after a short time shows the limited ability for a small community to sustain a FIT program. Also, it is important to note that in the

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124. *Id.* at 966 (noting that state feed-in tariffs are limited by the Public Utility Regulatory Policy Act (PURPA), which mandates that rates do not exceed avoided cost).

125. Dorsi, *supra* note 122, at 179; *but see* Grinlinton & Paddock, *supra* note 116, at 966 (recognizing that under recent FERC decisions, states appear to have the ability to calculate avoided costs in a way that will likely allow higher rates (matching that of a FIT), especially in states with high renewable portfolio standards, like California).

126. Dorsi, *supra* note 122, at 183-85.

127. U.S. ENERGY INFO. ADMIN., FEED-IN TARIFFS AND SIMILAR PROGRAMS (2013), https://www.eia.gov/electricity/policies/provider_programs.cfm; *see* Stephen Lacey, *Gainesville, Florida is a Bigger Per Capita Solar Producer Than California – Thanks to Feed-in Tariffs*, CLIMATE PROGRESS, Nov. 21, 2011, http://thinkprogress.org/romm/2011/11/21/373478/gainesville-florida-solarproducer-german-style-feed.html (relating the Gainesville program to the German model).

128. Anthony Clark, *As Feed-in Tariff Takes a Backseat Solar Industry Adjusts*, THE GAINESVILLE SUN, Apr. 26, 2014, http://www.gainesville.com/article/20140426/ARTICLES/140429694.

129. *Id.*

130. *Id.*

face of FIT suspension the solar industry has been able to make adjustments and accomplish a presence and demand within the community.

IV. OVERCOMING OBSTACLES TO INSTALLATION AND IMPLEMENTATION

Great! You have decided to purchase a solar power system and have secured the financing to do so. It is now smooth sailing to cleaner less expensive energy, right? Wrong. This section discusses various problems that those who desire a PV system must overcome in addition to financial restraints, such as: variable permitting requirements and lack of permission to install panels under local zoning codes and homeowner association's rules.

A. Permitting Requirements

The installation of most solar electric systems requires local permits such as a building permit, an electrical permit, or both.[131] Permitting can be an expensive and frustrating process for the building owner. Inexperienced planners and building inspectors, complex permitting requirements, and lengthy review processes can increase costs and drag out installation.[132] Additionally, the permitting process is further complicated because permitting requirements vary across jurisdictions and are sometimes inconsistent.[133] For example, some municipalities require renewable energy systems to obtain special use permits.[134] These permits authorize use in the zoning area but require additional criteria to be reviewed and considered in determining whether the installation is compatible with the community.[135] The need for uniform standards, streamlined permitting, and quicker review processes has been recognized and some local governments have acted.[136]

In Florida, one such local government is Broward County. Broward used a federal grant to develop a simplified process for permitting rooftop solar power systems for homeowners and businesses.[137] The program is receiving local support, and the county reports that applying for a permit can be accomplished electroni-

131. U.S. DEPT. OF ENERGY, PLANNING A HOME SOLAR ELECTRIC SYSTEM, http://energy.gov/energysaver/articles/planning-home-solar-electric-system (last visited Apr. 14, 2016).

132. Salkin, *supra* note 85, at 345.

133. *Id.*

134. *Id.* at 361.

135. *Id.*

136. *Id.* at 345-46.

137. GO SOLAR BROWARD ROOFTOP SOLAR CHALLENGE, http://www.broward.org/GoGreen/GoSOLAR/Pages/Default.aspx (last visited Apr. 14, 2016).

cally and that the simplified process will continue to drive the cost of solar electric systems down.[138] Also, county officials believe that more cities will join the Broward program and other Florida counties are planning to use Broward's program as a model for their own.[139]

B. Zoning Codes & Homeowner Associations (HOAs)

Additional troublesome channels that building owners desiring a PV system must navigate are local zoning codes and homeowner associations ("HOAs"). Local governments sometimes try to control the visual impacts of renewable energy installations by requiring compliance with height, set back, historical preservation, and minimum yard regulations.[140] Fortunately, rooftop PV systems are immune from many of these regulations with the exception of the historical preservation limitations. Local governments may also seek to regulate solar electric systems as unspecified accessory uses, which is problematic because, typically, these uses are required to be screened, which could interfere with sunlight.[141]

Fortunately, Florida has recognized that "it is in the public interest to promote the development of renewable energy resources"[142] and has emphasized renewable energy in its comprehensive plan.[143] Florida has preempted local government regulation that has the effect of prohibiting the installation of solar electric systems.[144] Proponents of the preemption approach have emphasized the benefits of a state being able to bring regulatory uniformity and consistency to local jurisdictions.[145] However, critics have found the "one-size-fits-all approach" to be costly and difficult to enforce due to their inability to take into account local issues and concerns.[146] Additionally, despite legislation preempting local ordinances, homeowners commonly find themselves in a situation where their HOA does not outright ban solar installations, but so restricts them as to effectively prohibit solar power systems

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138. Doreen Hemlock, *Broward Encourages Solar Energy with Easier Permits*, SUN SENTINEL, Jan. 25, 2013, http://articles.sun-sentinel.com/2013-01-25/business/fl-go-solar-conference-20130123_1_solar-energy-solar-panels-solar-systems.html.

139. *Id.*

140. Salkin, *supra* note 85, at 356-59.

141. *Id.* at 357.

142. FLA. STAT. § 366.91 (2014).

143. FLA. STAT. § 163.3177 (2014).

144. FLA. STAT. § 163.04(1) (2014) ("the adoption of an ordinance by a governing body . . . which prohibits or has the effect of prohibiting the installation of solar collectors . . . is *expressly prohibited*.") (emphasis added).

145. Rule, *supra* note 40, at 1251.

146. *Id.* at 1251-55.

or deprive them of any beneficial use. While the law on its face would seem to prohibit exactly these kinds of restrictions, homeowners are often deterred from challenging their HOA by the high costs of litigation.

V. A THREE STEP COMPREHENSIVE APPROACH TO FLORIDA'S SOLAR ENERGY POLICY

As demonstrated by the cost-based, permitting, and land use obstacles discussed in Parts III and IV, the road to Florida's greener tomorrow powered by sustainable energy is not going to be a short one. In order to reduce emissions, mitigate harms to the environment, and increase the state's solar energy market, policymakers must address obstacles in the following steps: (1) work within Florida's existing regulatory framework, encouraging commercial solar use and the development of solar ready communities; (2) focus on attracting third-party developers and encourage the growth of residential solar; and (3) develop a self-sustaining solar market which requires little government assistance. Each step described here advocates for a policy change that Florida can make in order to encourage solar power development. This incremental approach prevents Florida's solar energy future from hinging on the success or failure of one policy and instead encourages an attack on multiple fronts.

Former Secretary of Defense Donald Rumsfeld once said, "you go to war with the army you have."[147] In step one, Florida should concentrate on developing solar generation within its existing regulatory framework. Based on Florida's Supreme Court decision in *PW Ventures* and existing net metering laws, Florida should encourage investor owned PV systems. As a result of the current policies discouraging third-party solar developers, acquiring a PV system may be beyond financial possibility for many, especially individual homeowners who wish to install a system on their existing structure. However, hope is not lost. Even under the existing laws, commercial solar power has great potential for success. First, businesses, universities, and government entities generally have the resources to make an investment in a solar power system and benefit by capitalizing on the investment overtime. Commercial entities financial means make them more likely to be in high tax

147. William Kristol, *The Defense Secretary We Have*, WASH. POST, Dec. 15, 2004, http://www.washingtonpost.com/wp-dyn/articles/A132-2004Dec14.html.

brackets,[148] thus making tax credits and interest deductions very valuable. Also, commercial building owners who finance through PACE programs are not impacted by Fannie Mae's and Freddie Mac's refusal to purchase mortgages encumbered by first priority PACE debt. Second, commercial buildings generally have an abundance of rooftop space available to dedicate to solar installations. The larger the system, the more electricity it can generate, the greater the reduction that is seen on utility bills, and the more the business is insulated from rising fuel costs. Third, businesses may be able to cultivate their use of solar power into a marketable quality in their products they produce. Lastly, commercial entities are less likely to run into trouble from local government zoning boards or HOAs because they generally do not exist in residential zones, which tend to have more restrictive limits on the uses of property. Also, aesthetic concerns are downplayed with commercial buildings because many roofs are out of eyesight.

Additionally, residential solar can be encouraged through the building of solar-ready communities. When building a home in these communities, homeowners can select a solar option, whereby their house will be built, wired, and equipped with solar panels. This option allows homeowners to incorporate a solar electric system's price into their mortgage and cuts back costs of retrofitting an existing structure.[149] Solar-ready communities can ensure that homeowners receive the maximum benefit from their renewable system and developers need not "impose new institutions on residents ex post."[150] The community developer's design ensures that solar panels are placed in areas where sunlight is most abundant; and streets, lots, and buildings are laid out in a way that does not block the sun.[151]

Encouraging development within Florida's existing regulatory framework will ensure that development is not stalled while Floridians wait for Congress to act. The continued development of the solar power market will benefit Florida as it proceeds into steps two and three because development of the solar market will drive PV system providers to continue to innovate, thereby driving down the cost of solar electric systems. Also, the initial restraints on the market will encourage steady growth instead of a balloon-like expansion which will allow policymakers and regulators to study the

148. Generally, the more money an individual or business makes, the greater their rate of tax.

149. For examples of solar ready communities in Florida, see ECOVILLAGE TARPON SPRINGS, http://www.planetgreenergy.com/tarponsprings/ (last visited Apr. 18, 2016), and ECOVILLAGE DUNEDIN, http://www.ecovillagedunedin.com/ (last visited Apr. 18, 2016).

150. Hannah J. Wiseman & Sara C. Bronin, *Community-Scale Renewable Energy*, 4 SAN DIEGO J. CLIMATE & ENERGY L. 165, 179 (2013).

151. *Id.* at 188.

market and respond with appropriate solutions to stabilize the market in anticipation of rapid expansion. Lastly, the presence of PV systems in more communities will make consumers familiar and comfortable with solar power thereby increasing both demand and community acceptance.

In step two, Florida should focus on attracting third-party developers and encouraging the growth of residential solar power. The most challenging part of step two will be the development and enactment of legislation that will overrule *PW Ventures* and amend the net metering rules to allow all generators of solar power to net meter. Nearly half the states have encouraged the use of PPAs through legislation.[152] For example, California amended its statute to exclude third-party PPAs from the definition of public utility. New Jersey also excluded third-party PPAs from regulation as public utilities but also allowed developers to install PV systems away from the site of consumption.[153] However, exempting third-party PPAs from regulation as utilities does not mean the state should allow these third-party providers free rein. The state can and should maintain some authority over the provider.[154] For example, California requires that PPA providers provide information such as: power delivery estimates, power pricing, contract responsibilities, and provisions regarding transfer of the contract in the event of transfer of ownership of the residence, to customers, as well as record the existence of the PPA with the county recorder.[155] California also requires distributed solar power generators to register with the Public Utilities Commission.[156] Florida should similarly regulate providers and distributed generators, to both protect the unsophisticated consumer from unscrupulous providers, ensure that the benefits of solar power are captured by the homeowner, and allow electricity system operators to identify and address power problems.

In addition to the PPA, homeowners are encouraged to invest in solar power by net metering. Florida should amend its net metering policy to allow all solar generators to net meter regardless of who owns the PV system. However, Florida should be careful that it does not "leave the electric utility at the mercy of the consumer"[157] and should take action to ensure that its utilities are not bearing an inequitable amount of the costs.[158] Currently, the

152. Bolstad, *supra* note 53, at 723.
153. Farkas, *supra* note 101, at 111-14.
154. *Id.* at 115.
155. *Id.*
156. *Id.*
157. Bolstad, *supra* note 53, at 724.
158. *Id.*

Florida PSC rules have no stated aggregate capacity limit for net metered systems and they do not allow the utility to charge net metered customers any fees different than those of non-metered customers. One possible solution is for Florida to cap the amount of credit that consumers can earn on their next power bill.[159] Another possible solution is to amend the PSC's rules and allow utilities to include a cost-shifting provision in their interconnection agreements in order to allow utilities to recover non-operating costs.[160]

The final step toward ensuring that homeowners can reap the benefits of their solar electric systems is to ensure that these benefits are not hampered or restricted by HOA shading or local zoning rules. Florida has taken action and preempted local zoning laws that prohibit solar development and has forbidden HOA regulations with the same effect.[161] However, in practice, local ordinances and HOA regulations can restrict solar development in a way that constructively prohibits it and homeowners typically lack the sophistication or resources to challenge these types of prohibitions in court. For this reason, it is especially important that the state educate consumers, HOAs, and local governments on the benefits of solar power. Solar power initiatives should be supported by the community, not because they are forced, but because they embrace the benefits that solar power can bring to homeowners, businesses, and communities alike. The primary goals of solar education programs should be to encourage continued growth of distributed solar power by overcoming "homevoter fear."[162] Homevoter fear associated with distributed renewable energy devices stems from the belief that these land uses can "diminish neighborhood aesthetics, disturb nearby landowners, or threaten property values."[163] Solar power systems fortunately, do not emit odors, light, or noise, as do other renewable energy installations. Also, as solar panel technology develops, the panels tend to get smaller and more aesthetically pleasing. Education can serve to dispel myths associated with property value and aesthetics. As the benefits of solar power become known and the savings on electric bills are demonstrated, people may pay a premium to live in a home equipped with a PV system. The government can further encourage this trend by providing "green communities" with tax credits.[164] The use of this

159. *Id.*
160. *Id.*
161. FLA. STAT. § 163.04(1) (2014).
162. Rule, *supra* note 40, at 1235.
163. *Id.* at 1235-36.
164. *Id.*

credit system could allow communities to benefit from distributed renewables and not feel forced into doing so.

Lastly, in step three, Florida should continue to develop its solar market so that it becomes self-sustaining. One possible way to encourage a successful market is for Florida to advocate for clarification of Federal law. Once it is clear that state FIT programs will not be preempted, Florida can design a FIT program encouraging small-scale facilities, as well as guaranteeing profits and easy connection to the grid. The small facilities can be located in areas where they can connect to the existing grid to ensure that progress is not slowed by the need to site transmission lines.[165] The guaranteed profits will attract many different investors and create stable economic conditions facilitating long-term research and development and the continued reduction of the cost of solar power.[166] Finally, uniform interconnection requirements will allow distributed power producers access to the grid without high transaction costs.

VI. CONCLUSION

While the discussion here focuses on Florida's solar energy policy, the implications apply to other states looking to develop their own renewable energy sources. The growing concern over climate change and the reliability of the electric grid ensures the continued growth of the renewable energy market.

This note urges Florida to capitalize on its abundance of sunshine and promote solar energy development by removing financial and regulatory hurdles. Reducing the high upfront costs of PV systems and ensuring that Floridians can maximize the benefits from their PV systems will increase demand. Increased demand and a properly structured solar energy policy will attract solar energy investors, and developers, causing an increase in research and development and a decrease in costs.

By implementing three steps that (1) work within Florida's existing regulatory framework to encourage solar development; (2) focus on attracting third-party developers and encourage residential solar; and, (3) develop a self-sustaining solar market, Florida can overcome utility concerns and grow its solar energy markets. Implementation of these steps can help ensure that developers feel secure in their investments, and provide Florida with a sustainable energy source and a greener future.

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165. Grinlinton & Paddock, *supra* note 116, at 972.
166. *Id.* at 973.