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## How Entrepreneurs Can Crowdfund Renewable Energy Projects

Adrian Chiang

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# HOW ENTREPRENEURS CAN CROWDFUND RENEWABLE ENERGY PROJECTS

BY ADRIAN CHIANG<sup>1</sup>

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#### I. INTRODUCTION: WHAT IS CROWDFUNDING?

Currently, entrepreneurs often have difficulty finding sufficient funding for their ideas. There is only a small pool of angel investors and venture capitalists, and lenders can be very hesitant to loan.<sup>2</sup> Crowdfunding is the solution that brings a new, exciting method for entrepreneurs to obtain funding for their small business or product ideas. For many years, crowdfunding could not even be properly characterized.<sup>3</sup>

While the basic idea of crowdfunding—many people contributing money to realize a project or idea—has existed for hundreds of years,<sup>4</sup> in most recent years the Internet has revolutionized crowdfunding into its modern form.<sup>5</sup> There is a lot of public interest in crowdfunding because it allows someone with an idea to share it to millions across the Internet and then receive funding in return.<sup>6</sup>

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<sup>2</sup> Howard Leonhardt, *JOBS ACT Title II for Accrediteds Not Much Help for Entrepreneurs*, CROWDFUND BEAT, <http://crowdfundbeat.com/jobs-act-title-ii-for-accrediteds-not-much-help-for-entrepreneurs/> (last visited Feb. 12, 2014).

<sup>3</sup> Randolph Walerius, ‘Unequity’ Haunts the U.S. Regulatory Structure, CQ Roll Call Securities Enforcement & Litig. Briefing (Feb. 6, 2013). “Crowdfunding can look like debt, equity, a donation, a gamble, pre-purchase of a product, or some combination.” *Id.* Crowdfunding has been characterized by all these terms. *Id.* The major legal issue, however, was over whether crowdfunding is a type of equity under American finance law. *See infra* Part IV.A.1.

<sup>4</sup> *The History of Crowdfunding*, FUNDABLE, <http://www.fundable.com/crowdfunding101/history-of-crowdfunding> (last visited Feb. 12, 2014).

<sup>5</sup> *Id.*

<sup>6</sup> *CrowdFund IQ Benchmark Study*, EARLYIQ (Mar. 2013), available at <http://www.slideshare.net/fullscreen/earlyiq/crowdfundi-q-benchmark-study/1>. EarlyIQ, Inc., a San Diego information and analytics company, published this study on equity crowdfunding: 58% of all adults in the United States are interested in participating in crowdfunding at an average investment of \$1,300; 61% said they will invest 1 to 2 times a year; 20% said they will invest 3 times a year or

It is a new source of capital with huge potential as some estimate that it would add over \$2 trillion in new investments.<sup>7</sup> For both the crowdfunding entrepreneur and investor, it gives people who never had the investor network to successfully fundraise and people who were previously denied the ability to invest an opportunity to finally do that. Many online crowdfunding platforms exist—some hosting projects with overwhelming success.<sup>8</sup>

While only certain forms of crowdfunding are legally allowed at the moment, as time passes more forms of crowdfunding, such as the ability for any common person to get a monetary return on their contribution, will come to be. Once this happens, entrepreneurs will be able to transform certain industries, like the energy production field, by applying crowdfunding as a dominant financing model.

This Article explains how the entrepreneurial efforts and the upcoming changes in crowdfunding law will allow for more successful renewable energy projects in the United States. Part II examines the renewable energy market, its relevance, and the United States' transition from traditional non-renewable energy production to renewable energy production.<sup>9</sup> Part III covers the general methods of energy financing from both public and private sources and how they have been utilized in typical energy financing structures.<sup>10</sup> Part IV explains how an entrepreneur, utilizing the new rules on crowdfunding, can address the existing deficiencies in financing renewable energy projects.<sup>11</sup> Part V explores the current federal legal status of crowdfunding.<sup>12</sup> Part VI highlights some alternative methods other than crowdfunding to fund renewable energy projects.<sup>13</sup> Finally, Part VII concludes the discussion.<sup>14</sup>

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more; 69% of those making more than \$75,000 a year will participate in crowdfunding at \$1,980 per investment level, 3 times a year; 48% of those making less than \$75,000 a year will participate in crowdfunding at \$1,150 per investment level, 2.5 times a year; but 55% of respondents have fraud as their number one concern with crowdfunding. *Id.*

<sup>7</sup> Chance Barnett, *SEC Finally Moves on Equity Crowdfunding, Phase I*, FORBES (Jul. 19, 2013), <http://www.forbes.com/sites/chancebarnett/2013/07/19/sec-finally-moves-on-equity-crowdfunding-phase-1/>. “Estimated U.S. market for Title II crowdfunding (accredited investors): \$20 [b]illion . . .” *Id.* (citations omitted). “Estimated U.S. market for Title III crowdfunding (non-accredited investors): \$2 [t]rillion . . .” *Id.* (citations omitted).

<sup>8</sup> As of February 24, 2014, over \$992 million has been donated to successfully fund 56,766 projects from a total of over 5,500,000 different donors just for one online platform. Stats, KICKSTARTER, <http://www.kickstarter.com/help/stats> (last visited Feb. 24, 2014). This statistic is only from one online platform, and there are other popular online platforms.

<sup>9</sup> See *infra* Part II and accompanying notes 15–39.

<sup>10</sup> See *infra* Part III and accompanying notes 40–156.

<sup>11</sup> See *infra* Part IV and accompanying notes 157–188.

<sup>12</sup> See *infra* Part V and accompanying notes 189–263.

<sup>13</sup> See *infra* Part VI and accompanying notes 264–279.

<sup>14</sup> See *infra* Part VII.

## II. THE RENEWABLE ENERGY MARKET

A. *What Is Renewable Energy and Why Is It Important? Existing Means of Electrical Production and the Transition to Renewable Energy*

The meaning of “renewable” in the term “renewable energy” means creating energy from a replenishing supply that is not limited.<sup>15</sup> At the moment, renewable energy sources include: solar energy from the sun in the form of solar thermal-electric technology (STE)—in which large reflective panels concentrate the sun’s rays to boil water and create steam that spins turbines to generate electricity—and photovoltaic (PV) panels—which convert sunlight directly into electricity.<sup>16</sup> Hydroelectricity, a source derived from water, uses “the gravitational forces from falling or flowing water” to generate electricity, typically in the form of hydroelectric dams.<sup>17</sup> Geothermal energy produces electricity by using the earth’s virtually limitless natural heat to turn water into steam, which spins turbines to create electricity.<sup>18</sup> Biomass power is generated by burning organic waste material, like dead branches, leaves, saw dust, and crop waste, to once again create steam that powers turbines to create electricity.<sup>19</sup>

In contrast, nonrenewable energy includes fossil fuels like oil, natural gas, and coal, which are limited in supply.<sup>20</sup> Fossil fuels are specially formed from the once abundant organic plant material of the Carboniferous Period, having been exposed to extreme pressure for hundreds of millions of years.<sup>21</sup> Because most fossil fuels are created from the past’s unique environmental landscape, only so much of it will be available.<sup>22</sup>

Nonrenewable energy, largely from coal and fossil fuels in the form of centralized power companies, is the dominant method of electrical generation in the United States primarily because it is currently the cheapest form of energy

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<sup>15</sup> Karen B. Wong & Allan T. Marks, *Investing in a Green World: Does Green Mean Profitable*, in *ENERGY AND ENVIRONMENTAL PROJECT FINANCE LAW AND TAXATION NEW INVESTMENT TECHNIQUES* 125 (Andrea S. Kramer et al. eds., 2010).

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*

<sup>18</sup> *Id.*

<sup>19</sup> See *Biomass Energy*, ALTERNATIVE ENERGY, <http://www.altenergy.org/renewables/biomass.html> (last visited Jan. 11, 2015).

<sup>20</sup> See *Nonrenewable Resource*, INVESTOPEDIA, <http://www.investopedia.com/terms/n/nonrenewableresource.asp> (last visited Jan. 11, 2015).

<sup>21</sup> California Energy Commission, *Chapter 8: Fossil Fuels—Coal, Oil and Natural Gas*, ENERGY QUEST, <http://www.energyquest.ca.gov/story/chapter08.html> (last visited Jan. 11, 2015).

<sup>22</sup> *Id.*

available.<sup>23</sup> At the same time, however, there are major externalities to the world's reliance on nonrenewable energy, which results in pollution, climate change, and scarcity issues that even become national security issues.<sup>24</sup> Meanwhile, renewable energy projects "have achieved greater efficiency, increased reliability, and economies of scale[.]" making them more competitive in the energy market.<sup>25</sup> Additionally, construction and operation costs of renewable energy facilities have gone down.<sup>26</sup> The public's growing environmental consciousness and its resulting influence on the energy market and governmental regulations are other reasons for the increasing growth of renewable energy.<sup>27</sup> Many states have even set targets<sup>28</sup> and have designed markets<sup>29</sup> to encourage the growth of this renewable energy industry. The result is that there is a growing trend towards renewable energy production with the largest growth occurring in the U.S. market in wind and solar energy production.<sup>30</sup> Therefore, later discussion focuses more on the application of

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<sup>23</sup> Wong & Marks, *supra* note 15, at 123. Nuclear energy is also a nonrenewable resource. *Nuclear Energy*, EPA, <http://www.epa.gov/cleanenergy/energy-and-you/affect/nuclear.html> (last visited Feb. 24, 2014). Nuclear energy is produced from a process called fission in which a radioactive element, like uranium, has its atom's nucleus split apart in a controlled chain reaction to release energy. *Id.* Nuclear energy can release a lot of energy, and it accounts for approximately 20% of U.S. energy production; however, nuclear waste disposal is an unresolved issue that makes nuclear energy less popular. *Id.*

<sup>24</sup> Wong & Marks, *supra* note 15, at 125. Wong succinctly states the benefit of renewable energy sources:

Renewable energy is considered by many to be a key ingredient in the recipe to solve many of the world's urgent economic, environmental, and security issues. Economically, renewable energy sources can reduce dependence on imported fossil fuels and act as a hedge against volatile petroleum and gas prices, while creating new jobs in the green energy sector. Environmentally, the use of conventional fossil fuels to generate power leads to toxic air pollution and GHG emissions, leading to increased atmospheric carbon density and global climate change—impacts on the earth, which the increased use of renewable energy should reduce.

*Id.*

<sup>25</sup> *Id.* at 123.

<sup>26</sup> *Id.*

<sup>27</sup> *Id.* at 127–30.

<sup>28</sup> *See infra* Part III.A.1.c.

<sup>29</sup> *How Much U.S. Electricity is Generated from Renewable Energy?*, U.S. ENERGY INFO. ADMIN., [http://www.eia.gov/energy\\_in\\_brief/article/renewable\\_electricity.cfm](http://www.eia.gov/energy_in_brief/article/renewable_electricity.cfm) (last updated April 14, 2014) [hereinafter U.S. ENERGY INFO. ADMIN.]. "A number of states have built Renewable Energy Certificates/Credits (RECs) into their Renewable Portfolio Standards. This allows electricity providers to sell renewable energy certificates/credits. Some states have made REC markets mandatory, requiring electricity providers to produce or acquire renewable generation to reduce reliance on fossil fuels to generate electricity." *Id.*

<sup>30</sup> U.S. ENERGY INFO. ADMIN., ANNUAL ENERGY OUTLOOK 2013 WITH PROJECTIONS TO 2040 75 (Apr. 2013). Renewable energy includes biomass, hydropower, wind, solar, and geothermal energy production. *Id.* Wind was once highly popular before it died down but is once again on the

crowdfunding to renewable energy with regards to solar and wind energy production.

Despite the growth of renewable energy, start-up and operating costs are still a major barrier to it becoming the predominant form of energy production in the United States.<sup>31</sup> Renewable energy power plants can be more expensive to build and to operate—in terms of dollars per unit of electricity output—than natural gas or coal plants.<sup>32</sup> There is also a lack of reasonably priced financing.<sup>33</sup> Another barrier is that “many renewable resources are available only in remote areas, and building transmission lines to deliver power to large metropolitan areas is expensive.”<sup>34</sup>

Of course, renewable energy production also has its own flaws. For example, wind farms can be unaesthetic, noisy, and fatal to birds.<sup>35</sup> New dams can also affect the water’s ecosystem of animal and plant life.<sup>36</sup> Some of these sources are also only viable to the extent of their natural surroundings.<sup>37</sup> However, the damage and environmental effects of fossil fuels and nuclear powered energy are not outweighed by these drawbacks.<sup>38</sup> It would be most impressive if the United States could one day achieve energy independence from nonrenewable resources.<sup>39</sup>

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rise as engineers discover more efficient methods of harnessing and converting energy. Nancy S. Giges, *Renewable Energy: Top 5 Trends to Watch in 2013*, AMERICAN SOCIETY OF MECHANICAL ENGINEERS (Apr. 2013), <https://www.asme.org/engineering-topics/articles/renewable-energy/renewable-energy-top-5-trends-watch-2013>.

<sup>31</sup> U.S. ENERGY INFO. ADMIN., *supra* note 29.

<sup>32</sup> *Id.*

<sup>33</sup> *Id.*

<sup>34</sup> *Id.*

<sup>35</sup> Wong & Marks, *supra* note 15, at 125.

<sup>36</sup> *Id.*

<sup>37</sup> *E.g.*, to be most effective, solar energy requires STE or PV to be placed in areas with long periods of unblocked sunlight. Wind farms have to be in areas with wind. Dams need to be near rivers.

<sup>38</sup> Wong & Marks, *supra* note 15, at 125.

<sup>39</sup> This is not entirely infeasible. Consider Germany’s success in meeting its ambitious aim of 60% renewable energy. Jonathan Garcia, *Why Crowdfunding is a Big Win for Clean Energy*, MEGAFOUNDER (Aug. 26, 2013), <http://blog.megafounder.com/blog/crowdfunding-energy/>. However, different laws apply. *See id.*

### III. WHAT ARE THE METHODS OF ENERGY FINANCING?

#### A. Sources of Funding

##### 1. Government Incentives

Existing financing methods for renewable energy projects are limited.<sup>40</sup> Using tax law, the federal government has provided subsidies to promote the growth of renewable energy in the form of tax credits, grants, and depreciation rates—this is known as tax equity financing.<sup>41</sup> Government mandates force utilities to produce a certain amount of their electricity from renewable sources.<sup>42</sup>

##### a. Tax Credits

Federal support to promote the growth of renewable energy can include tax credits and grants but is rather unavailable. In most recent years, the American Recovery and Reinvestment Act of 2009 (ARRA)<sup>43</sup> in February 2009 and the American Taxpayer Relief Act of 2012<sup>44</sup> in January 2013 have provided renewable electricity Production Tax Credits (PTC) to new renewable energy projects.<sup>45</sup> A PTC “reduces the federal income taxes of qualified tax-paying owners of renewable energy projects based on the *electrical output* (measured in kilowatt-hours, or kWh) of grid-connected renewable energy facilities.”<sup>46</sup> The

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<sup>40</sup> *New Approaches in Renewable Energy Finance: Master Limited Partnership, Real Estate Investment Trusts, And Crowdfunding*, ENVTL. & ENERGY STUDY INST. (Oct. 2012), available at [http://files.eesi.org/IssueBrief\\_New\\_Approaches\\_Renewable\\_Energy\\_Finance\\_102412.pdf](http://files.eesi.org/IssueBrief_New_Approaches_Renewable_Energy_Finance_102412.pdf) [hereinafter *New Approaches in Renewable Energy Finance*].

<sup>41</sup> Craig Wesley Foxgrover & Damon Kellar, *Financing Renewable Energy Projects Through U.S. Tax Credits*, in ENERGY AND ENVIRONMENTAL PROJECT FINANCE LAW AND TAXATION NEW INVESTMENT TECHNIQUES 680 (Andrea S. Kramer et al. eds., 2010).

<sup>42</sup> See *infra* Part III.A.1.c.

<sup>43</sup> American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009). This Act provided over \$20 billion in appropriations to the renewable energy sector. Arthur J. Harrington, *Safe Harbor in Financial Storms: Renewable Energy Projects*, 24 NAT. RESOURCES & ENV'T 30, 31 (2009).

<sup>44</sup> American Taxpayer Relief Act of 2012, Pub. L. No. 112-240, 126 Stat. 2313 (2013).

<sup>45</sup> *Renewable Electricity Production Tax Credit (PTC)*, DATABASE OF ST. INCENTIVES FOR RENEWABLES & EFFICIENCY (Oct. 2, 2013), [http://www.dsireusa.org/incentives/incentive.cfm?Incentive\\_Code=US13F&re=1&ee=1](http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US13F&re=1&ee=1) [hereinafter *PTC*]. It is worth mentioning that solar energy facilities could not claim the PTC. *Id.*

<sup>46</sup> Jenna Goodward & Mariana Gonzales, *The Bottom Line on Renewable Energy Tax Credits*, WORLD RESOURCES INST., (Oct. 2010), [http://www.wri.org/sites/default/files/pdf/bottom\\_line\\_renewable\\_energy\\_tax\\_credits\\_10-2010.pdf](http://www.wri.org/sites/default/files/pdf/bottom_line_renewable_energy_tax_credits_10-2010.pdf) [hereinafter *The Bottom Line*]. Each energy resource type has its own credit amount. 26 U.S.C. § 45 (2012). For example, wind and geothermal facilities



American Taxpayer Relief Act of 2012 had some notable features that broadened the coverage and extended the PTCs, which included allowing facilities that qualified for the PTC to claim an Investment Tax Credit (ITC) instead.<sup>47</sup> Under the PTC program, after a facility is placed in service and a PTC is claimed, the PTC generally lasts ten years over the duration of operation.<sup>48</sup> The PTC program is significant, and it has been estimated that its value from 2009–2019 is \$13 billion.<sup>49</sup>

Another tax credit is the Investment Tax Credit (ITC), which “reduces federal income taxes for qualified tax-paying owners based on *capital investment* in renewable energy projects (measured in dollars).”<sup>50</sup> Its value is estimated to be greater than \$218 million from years 2009–2019.<sup>51</sup> In the ARRA, which is the latest piece of legislation to affect the ITC program, 10–30% of total expenditures could be claimed for an ITC for qualifying facilities placed in service before December 31, 2016.<sup>52</sup> Qualifying facilities have to meet some basic requirements, such as performance and quality standards, and the taxpayer claiming the credit must first use the equipment and construct the facility.<sup>53</sup> Additionally, the property must be operational in the year it claims the credit.<sup>54</sup>

It is also worth mentioning that the ARRA had a section 1603 cash grant program that reimbursed taxpayers with funds in lieu of claiming a tax credit.<sup>55</sup> However, these cash grants have expired and were only available for facilities that began construction in 2009, 2010, or 2011.<sup>56</sup>

These tax credits have significant advantages over tax deductions because “a tax credit reduces a taxpayer’s income tax liability dollar for dollar while a

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receive 2.3 cents/kWh and hydroelectric facilities receive 1.1 cents/kWh. *See id.* (inflation-adjusted credit has been calculated in); *PTC*, *supra* note 45.

<sup>47</sup> *PTC*, *supra* note 45.

<sup>48</sup> *Id.* Some exceptions exist if the facility is an open-loop biomass, geothermal, small irrigation hydro, landfill gas, or municipal solid waste combustion facility. *Id.*

<sup>49</sup> Harrington, *supra* note 43, at 31.

<sup>50</sup> *The Bottom Line*, *supra* note 46, at 1.

<sup>51</sup> Harrington, *supra* note 43, at 31.

<sup>52</sup> *Business Energy Investment Tax Credit (ITC)*, DATABASE OF ST. INCENTIVES FOR RENEWABLES & EFFICIENCY (Jan. 2, 2013), [http://www.dsireusa.org/incentives/incentive.cfm?Incentive\\_Code=US02F&re=1&ee=0](http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=US02F&re=1&ee=0). For example, solar energy and small wind turbines credit is eligible for up to 30% of expenditures, while geothermal systems can only receive credit up to 10%. *Id.*

<sup>53</sup> *Id.*

<sup>54</sup> *Id.*

<sup>55</sup> *1603 Program: Payments for Specific Energy Property in Lieu of Tax Credits*, U.S. DEP’T OF THE TREASURY (Sept. 30, 2014), <http://www.treasury.gov/initiatives/recovery/Pages/1603.aspx>.

<sup>56</sup> *Id.*

deduction only removes a percentage of the tax owed.”<sup>57</sup> However, these tax incentive-based financing methods have some drawbacks. In the initial stages of this writing, new qualifying renewable energy projects in the year 2014 could not claim a PTC because the program required construction to begin prior to December 31, 2013.<sup>58</sup> The availability of these credits has an enormous effect on the investment and creation of new renewable energy facilities.<sup>59</sup> When PTCs have not been extended, the renewable energy industry has experienced downturns.<sup>60</sup> Unfortunately for energy facilities, even when the PTC could be claimed, it “is reduced for projects that receive other federal tax credits, grants, tax-exempt financing, or subsidized energy financing.”<sup>61</sup> Additionally, because these credits are granted on a short-term basis in which energy projects must be placed in service before the claim for a credit expires, this has discouraged more renewable energy investment.<sup>62</sup> As a result, a long-term tax policy benefitting renewable energy investment is needed<sup>63</sup> or else renewable energy developers have to find more sources of capital. It is important for later discussion to note that typically only tax equity investors can take advantage of the PTC and ITC.<sup>64</sup> The other more general drawback to the tax program is that consumers, as taxpayers, have to indirectly subsidize the cost of lost tax revenue.<sup>65</sup>

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<sup>57</sup> Foxgrover & Keller, *supra* note 41, at 641.

<sup>58</sup> PTC, *supra* note 45. However, the Tax Increase Prevention Act of 2014 (H.R. 5771, Sec. 155) extended both the PTC and permission for PTC-eligible facilities to claim the ITC in lieu of the PTC through the end of 2014. *Id.* Prior to the legislation, the PTC had expired on December 31, 2013. *Id.* Although not enacted until December 2014, the effective date is January 1, 2014, meaning any qualifying project that commenced construction at any point in 2014 is eligible to claim the PTC. *Id.*

<sup>59</sup> Wong & Marks, *supra* note 15, at 134.

<sup>60</sup> *Id.* “In the past, periodic, short-term extensions of the PTC led to yearly boom-bust cycles from 1999 to 2004. In the three years in which the PTC was allowed to lapse (2000, 2002, and 2004), the industry experienced a pronounced downturn.” *Id.* When credits have not been renewed, there have been instances of an 80% rate drop in installations. Kevin M. Walsh, *Renewable Energy Financial Incentives: Focusing on Federal Tax Credits and the Section 1603 Cash Grant: Barriers to Development*, 36 ENVIRONS ENVTL. L. & POL’Y J. 207, 235 (2013).

<sup>61</sup> *Renewable Electricity Production Tax Credit (PTC)*, U.S. DEP’T OF ENERGY, <http://energy.gov/savings/renewable-electricity-production-tax-credit-ptc> (last visited Jan. 29, 2015) (citing as its source PTC, *supra* note 45).

<sup>62</sup> Walsh, *supra* note 60, at 232.

<sup>63</sup> *Id.*

<sup>64</sup> *Id.* at 213–14. “The amount of investors that can take advantage of the PTC or ITC, however, is mostly limited to large, sophisticated financial organizations—banks, financial companies, investment banks, and insurance companies.” *Id.* at 235–36.

<sup>65</sup> Wong & Marks, *supra* note 15, at 135.

### b. Depreciation Rates

Depreciation rates are another form of federal tax incentives that are part of the method of renewable energy financing.<sup>66</sup> Very generally, depreciation allows taxpayers to make deductions from their incomes and recover the cost or basis of certain property over time as the property is used.<sup>67</sup> The Modified Accelerated Cost-Recovery System (MACRS) is a special form of depreciation with its own subset of qualifications and rules that allow renewable energy businesses to make deductions.<sup>68</sup> Property in MACRS is given a “class life”—a number of years for the property to be depreciated.<sup>69</sup> Many renewable energy technologies, which include STEs and PVs, small wind facilities generating 100 kW or less, and geothermal technologies, are depreciable on the MACRS with a class life of five years.<sup>70</sup>

Bonus Depreciation is another tax mechanism to encourage and ease renewable energy investment that has been used in previous years. In its initial form under the Economic Stimulus Act of 2008, Bonus Depreciation allowed taxpayers to deduct an additional 50% for renewable energy systems “placed in service” in 2008.<sup>71</sup> Bonus Depreciation deductions have been extended and modified over the years with the most recent change happening under the American Taxpayer Relief Act of 2012.<sup>72</sup> Certain qualifications exist for this deduction to be claimed, such as the property must have a recovery period of twenty years or less, the property must have been acquired from 2008–2013, and the property must have been placed in service from 2008–2013.<sup>73</sup> Once the qualifications are met, the taxpayer or renewable energy entity claiming the deduction can deduct 50% from the basis of the property during the first year it is placed in service.<sup>74</sup> The remaining 50% is depreciated in accordance with the MACRS discussed above.<sup>75</sup> For some qualifying renewable energy property placed in service between September 8, 2010, and January 1, 2012, a full 100%

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<sup>66</sup> *New Approaches in Renewable Energy Finance*, *supra* note 40.

<sup>67</sup> *How to Depreciate Property*, INTERNAL REVENUE SERV. 1, 3 (Jan. 28, 2014), available at <http://www.irs.gov/pub/irs-pdf/p946.pdf>.

<sup>68</sup> *Modified Accelerated Cost-Recovery System (MACRS) + Bonus Depreciation (2008-2012)*, U.S. DEP'T OF ENERGY, <http://energy.gov/savings/modified-accelerated-cost-recovery-system-macrs-bonus-depreciation-2008-2012> (last visited Feb. 16, 2015) [hereinafter *MACRS*]; *How to Depreciate Property*, *supra* note 67, at 31.

<sup>69</sup> *MACRS*, *supra* note 68.

<sup>70</sup> *Id.*; *How to Depreciate Property*, *supra* note 67, at 32.

<sup>71</sup> *MACRS*, *supra* note 68.

<sup>72</sup> *Id.*

<sup>73</sup> *Id.*

<sup>74</sup> *Id.*

<sup>75</sup> *Id.*

Bonus Depreciation deduction is allowed.<sup>76</sup> In this instance, the MACRS would be unavailable because the basis of the property has been fully depreciated and deducted.<sup>77</sup> Notably:

The bonus depreciation rules do not override the depreciation limit applicable to projects qualifying for the federal business energy tax credit. Before calculating depreciation for such a project . . . the adjusted basis of the project must be reduced by one-half of the amount of the energy credit for which the project qualifies.<sup>78</sup>

It has been argued that only savvy companies can utilize Bonus Depreciation and the MACRS, and “typically only companies with significant and predictable tax liabilities can benefit from these federal tax incentives, which in practice means that renewable energy developers must enter into complicated financial arrangements with outside investors to make use of the incentives.”<sup>79</sup> Under these tax mechanisms, a typical situation occurs in which “outside investors provide capital for the project and in return benefit from the tax incentives, a system known as tax-equity financing. This limits the amount of capital available for renewable energy projects and bars many investors and companies from participating directly in this market.”<sup>80</sup> Furthermore, the Bonus Depreciation deduction has not been extended,<sup>81</sup> making renewable energy financing more difficult.

### c. RPS State Government Mandates

At the moment, a national Renewable Energy Standard (RES)<sup>82</sup> does not exist; instead, states have the ability to mandate local utilities through “Renewable Portfolio Standards (RPS) . . . [to] require electricity providers to generate or acquire a certain portion of their power supplies from renewable

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<sup>76</sup> *Id.*

<sup>77</sup> *Id.*

<sup>78</sup> *Id.*

<sup>79</sup> *New Approaches in Renewable Energy Finance*, *supra* note 40.

<sup>80</sup> *Id.*

<sup>81</sup> As of February 16, 2014, the American Taxpayer Relief Act of 2012 is the last piece of legislation that has extended bonus depreciation deductions until December 31, 2013. *MACRS*, *supra* note 68.

<sup>82</sup> James Montgomery, *Trying Again: Proposing a National U.S. Renewable Energy Standard*, RENEWABLEENERGYWORLD.COM (Nov. 1, 2013), <http://www.renewableenergyworld.com/rea/news/article/2013/11/trying-again-proposing-a-national-u-s-renewable-energy-standard>. In the past, a national RES has been proposed but never succeeded in Congress. *Id.* As recently as 2013, U.S. Senate members have proposed two separate bills to create a national RES—Senate Bill S.1595 from Mark Udall (D-Colorado) and Tom Udall (D-New Mexico), and the “American Renewable Energy and Efficiency Act” from Sen. Ed Markey (D-Mass). *Id.*

sources.”<sup>83</sup> For some states, an aggressive RPS mandate can force large utilities to provide debt financing to their own or other renewable energy projects to create enough renewable energy supply.<sup>84</sup> In California, for example, Governor Schwarzenegger signed Executive Order S-14-08 in 2008 for California to have 33% of its energy derived from renewable resources by 2020—very ambitious considering California had only 11.6% renewable energy production in 2009.<sup>85</sup> Ironically, some utilities might be financing their own competition.<sup>86</sup>

Because RPS policies are created and implemented at the state level, each state’s requirements “vary considerably in their requirements with respect to their time frame, resource eligibility, the treatment of existing plants, arrangements for enforcement and penalties, and whether they allow trading of renewable energy credits.”<sup>87</sup> Logically, it seems laxer RPS requirements would not incentivize utilities to provide debt financing as much to renewable projects as utilities in states with more ambitious RPS. Additionally, the drawback of RPS mandates is that utilities that have to buy renewable energy from other producers at a higher cost can and do pass it on to consumers.<sup>88</sup> Only some RPS programs have “escape clauses” for utilities if renewable energy generation becomes too costly.<sup>89</sup>

Other federal and state programs exist through various types of loans and grants, but they have more specific qualifications and not general applicability to renewable energy projects.<sup>90</sup>

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<sup>83</sup> *How Much U.S. Electricity is Generated from Renewable Energy?*, *supra* note 29.

<sup>84</sup> Joseph A. Scherer, *Multi-tiered Financing Structures and Intercreditor Relationships in Renewable Energy Project Financings*, in *ENERGY AND ENVIRONMENTAL PROJECT FINANCE LAW AND TAXATION* 361–63 (Andrea S. Kramer et al. eds., 2010). Utilities are sometimes called “offtake purchasers” when they function in this debt financing capacity. *Id.*

<sup>85</sup> Exec. Order No. S-14-08 (Nov. 17, 2008), *available at* <http://gov38.ca.gov/index.php?executive-order/11072/>; *California Renewable Energy Overview and Programs*, CAL. ENERGY COMM’N, <http://www.energy.ca.gov/renewables/> (last updated Apr. 10, 2013).

<sup>86</sup> Scherer, *supra* note 84, at 363.

<sup>87</sup> Foxgrover & Kellar, *supra* note 41, at 640–41 n.6. For additional information on renewable energy credits, see Part III.A.1.a.

<sup>88</sup> Wong & Marks, *supra* note 15, at 135.

<sup>89</sup> *How Much of our Electricity is Generated from Renewable Energy?*, *supra* note 22.

<sup>90</sup> *Guide to Federal Financing Programs for Energy Efficiency and Clean Energy Deployment*, U.S. DEP’T OF ENERGY (Sept. 24, 2013), *available at* [http://energy.gov/sites/prod/files/2014/05/f15/fed\\_finance\\_facilities\\_ee\\_upgrades\\_deployment.pdf](http://energy.gov/sites/prod/files/2014/05/f15/fed_finance_facilities_ee_upgrades_deployment.pdf). This guide provides a list of “various federal financing programs for which energy efficiency and clean energy qualify[—]meant to make it easier for state, local and tribal leaders, along with their partners in the private sector, to find capital for energy efficiency and clean energy projects.” *Id.*

#### d. Federal Bonds

Clean Renewable Energy Bonds (CREBs) “serve as a financing tool for public entities comparable to the production tax credit available to private developers and investor-owned utilities . . . .”<sup>91</sup> The CREBs program was created under the Energy Policy Act of 2005,<sup>92</sup> and the eligible entities were government bodies, cooperative electric utilities, and public power providers.<sup>93</sup> Under this system, “[q]ualified public entities may issue CREBs to finance renewable energy projects with the federal government providing a tax credit to bondholders in lieu of interest payments from the issuer.”<sup>94</sup> The ARRA added approximately \$2.4 billion to the program<sup>95</sup>—the additional benefits of this extension are valued at over \$803 million over the next ten years.<sup>96</sup> Unfortunately, the CREBs program last funded new projects in 2010.<sup>97</sup>

#### e. Federal Guarantee Loans

The federal government has provided guaranteed loans to qualifying projects subject to an approved application. Upon a successfully approved application, a project takes out loans from a lender, and the federal government guarantees the payment of principal and oftentimes interest, in the event of a default.<sup>98</sup> These types of loans are intended to encourage more lending and help borrowers obtain better terms on their loans.<sup>99</sup> Under Title XVII of the Energy Policy Act of 2005, section 1703, the Department of Energy (DOE) administered clean energy loan guarantees to authorize loan guarantees for:

[R]enewable energy generation and manufacturing systems, advanced nuclear generation facilities, coal gasification, carbon sequestration, energy efficiency, and many other types of clean energy projects that *use new or significantly improved technologies*

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<sup>91</sup> John A. Herrick & Cara S. Elias, *Federal Incentives for Clean Energy After Solyndra: A Post-Recovery Act Precipice*, 87 N.D. L. REV. 625, 664 (2011). More information and analysis on CREBs is available. *Id.* at 664–69.

<sup>92</sup> *Id.* at 664; Energy Policy Act of 2005, Pub. L. No. 109-58, § 1303, 119 Stat. 594 (2005).

<sup>93</sup> Herrick & Elias, *supra* note 91, at 667.

<sup>94</sup> *Id.* at 664.

<sup>95</sup> Harrington, *supra* note 43, at 31.

<sup>96</sup> *Id.*

<sup>97</sup> *Clean Renewable Energy Bonds (CREBs)*, DATABASE OF ST. INCENTIVES FOR RENEWABLES & EFFICIENCY, [http://dsireusa.org/incentives/incentive.cfm?Incentive\\_Code=US45F&re=1&ee=0](http://dsireusa.org/incentives/incentive.cfm?Incentive_Code=US45F&re=1&ee=0) (last reviewed Oct. 12, 2012).

<sup>98</sup> Herrick & Elias, *supra* note 91, at 638.

<sup>99</sup> *Id.*

in commercial projects that avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases, and have a reasonable prospect of repayment.<sup>100</sup>

Despite this support, the actual number of projects receiving support has been low, and the DOE still requires the project sponsors to provide “significant equity investment in the project.”<sup>101</sup>

The most recent guarantee loan program implemented was section 1705,<sup>102</sup> which was added by the ARRA. This section’s purpose was “for the rapid deployment of *commercial-ready* renewable energy and electric power transmission projects, as well as cutting-edge biofuels projects.”<sup>103</sup> This program “increase[d] loan guarantee funding authority, expand[ed] on the type of projects eligible for loan guarantees, and provide[d] more flexibility to overcome barriers of the existing DOE loan guarantee program.”<sup>104</sup> Newly eligible projects included those “using existing technologies in the wind, solar, and geothermal sectors, as well as commercial projects that manufacture components related to renewable energy generation.”<sup>105</sup> No further loan guarantees have been made because the project construction must begin before September 30, 2011.<sup>106</sup> Solyndra was a PV manufacturing company that defaulted operating under a \$352 million loan guarantee from the section 1705 program.<sup>107</sup>

## 2. Private Sources: Debt and Equity

### a. Bond Investors

Traditional bond investors are made up of institutional investors like pension funds and insurance companies who “finance sizable, traditional, energy standard projects with commercially proven technology in well-developed markets . . . .”<sup>108</sup> While this type of debt financing might be used for refinancing a renewable energy project or when there is other strong financial

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<sup>100</sup> *Id.* at 657–58 (emphasis added); 42 U.S.C. § 16513 (2012).

<sup>101</sup> Herrick & Elias, *supra* note 91, at 658; *see id.*, at 657–58 (discussing analysis of section 1703).

<sup>102</sup> American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, § 406, 123 Stat. 115.

<sup>103</sup> Herrick & Elias, *supra* note 91, at 659 (emphasis added); § 406, 123 Stat. 115.

<sup>104</sup> Herrick & Elias, *supra* note 91, at 659.

<sup>105</sup> *Id.*

<sup>106</sup> *Id.* at 659–60.

<sup>107</sup> *Id.* at 661.

<sup>108</sup> Scherer, *supra* note 84, at 356.

backing, this type of financing is less common in the renewable energy field. This is because renewable energy projects tend to be riskier—technologically and economically—and smaller, which results in smaller bond issuances that lead to less liquidity in a secondary market that bond investors prefer.<sup>109</sup> Additionally, the bond market is subject to large-scale economic factors that affect whether the bond market is “open” or “closed” for investment.<sup>110</sup>

Commercial, merchant, and investment banks provide debt financing to renewable energy projects.<sup>111</sup> Banks also take on a variety of roles, including that of lead manager in which the bank will underwrite a loan to be placed on the market.<sup>112</sup>

#### b. Equipment Vendors and Technology Licensors

Equipment vendors and technology licensors are sometimes financiers in the renewable energy industry. These “companies are willing to participate in the financing of new projects simply because their technology will be utilized, or is expected to be utilized, in the project.”<sup>113</sup> The expectation is that a vendors’ equipment will dominate a region or market, and the “future sales of their equipment and technology [will] be enhanced over the long term.”<sup>114</sup> Equipment vendors and technology licensors are helpful to the renewable energy industry because it can provide financing when there are budget overruns or any other gaps in funding.<sup>115</sup>

#### c. Venture Capital

Some venture capital (VC) funds are designed to invest in “cleantech.”<sup>116</sup>

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<sup>109</sup> Scherer, *supra* note 84, at 356–57. To see how bond investments have been used successfully in renewable energy projects, see the case study provided. *Id.* at 357–58.

<sup>110</sup> *Id.* at 356.

<sup>111</sup> *Id.* at 358.

<sup>112</sup> *Id.*

<sup>113</sup> *Id.*

<sup>114</sup> *Id.* at 359.

<sup>115</sup> *Id.*

<sup>116</sup> *PitchBook 2013 VC Cleantech Report*, PITCHBOOK DATA, INC., Dec. 16, 2013, at 1, 10–11. Cleantech is a loose term that incorporates the “broad range of products and services that seek to reduce the environmental impact of human activities or to significantly reduce the consumption of natural resources.” *Id.* at 3. For purposes of this section, renewable energy production investment is treated synonymously with cleantech investment even though renewable energy production is a subset of overall cleantech investment because investment in renewable energy is the greatest percentage of cleantech investments. *Id.* at 9 (see the table listing “Energy Equipment” and “Exploration, Production and Refining”). Some large VC fund names include Kleiner Perkins Caufield & Byers, Khosla Ventures, True North Venture Partners, Braemar Energy Ventures, and



For the last few years, VC funds were becoming more popular in renewable energy financing.<sup>117</sup> In fact, VC investment in cleantech was increasing during the years after the 2008 economic recession and reached as high as \$4.6 billion.<sup>118</sup> However, by the end of 2013 the capital invested in cleantech dropped to \$1.4 billion.<sup>119</sup> Some analysts explain this drop as a result of the difficulty in exiting cleantech by being unable to sell economic and ownership interests at VC standards, if capable of being sold at all, and the disastrous failures of renewable energy-related companies like Solyndra.<sup>120</sup>

“Energy projects pose challenges to the traditional venture capital model of financing. First, there are financing risks.”<sup>121</sup> In general, energy projects are “capital intensive, accentuating the ‘valley of death’ between early stage venture funding and later stage commercial lending. Cleantech VC funds do not have the capacity of scale to commercialize innovative technologies into the energy marketplace.”<sup>122</sup> The market risks in renewable energy dissuade capital investment.<sup>123</sup> Due to the variable, yet inherent qualities of some sources like the wind or sun, VC investors are not confident energy will be “delivered on time and over a sufficiently long period of time.”<sup>124</sup> This has a further negative effect of making energy producers slow to adopt newer unproven technology seeking venture capital.<sup>125</sup> Separately, a third issue VCs have with making energy investments are the regulatory risks stemming from changes in government regulations and incentives from politics.<sup>126</sup> VC firms would rather invest in fields that do not depend on the government.<sup>127</sup> The last point that dissuades VCs are the exit strategy risks that arise from the longer length of time it takes investors to receive a high return on investment through an initial public

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EnerTech Capital Partners. *Id.*

<sup>117</sup> *Id.* at 4.

<sup>118</sup> Scherer, *supra* note 84, at 363; *PitchBook 2013 VC Cleantech Report*, *supra* note 116, at 4.

<sup>119</sup> Of that \$1.4 billion amount, investment in the sector of “exploration, production, and refining” dropped to \$311.9 million. *PitchBook 2013 VC Cleantech Report*, *supra* note 116, at 9.

<sup>120</sup> *Id.* at 4. Solyndra was a solar power panel company that received millions of dollars in national grants that made national headlines when it bankrupted. Joe Stephens & Carol D. Leonnig, *Solyndra: Politics Infused Obama Energy Programs*, WASH. POST, Dec. 25, 2011, [http://www.washingtonpost.com/solyndra-politics-infused-obama-energy-programs/2011/12/14/g1QA4H11HP\\_story.html](http://www.washingtonpost.com/solyndra-politics-infused-obama-energy-programs/2011/12/14/g1QA4H11HP_story.html).

<sup>121</sup> Scherer, *supra* note 84, at 363.

<sup>122</sup> *Id.*

<sup>123</sup> *Id.* at 364.

<sup>124</sup> *Id.*

<sup>125</sup> *Id.*

<sup>126</sup> *Id.*

<sup>127</sup> *Id.*; *see infra* Part III.A.1.a.

offering or merger transaction.<sup>128</sup>

## *B. Financing Structures*

### *1. Debt Financing Structure*

With an understanding of the main sources of capital for renewable energy projects, it is useful to review some of the major financing structures that accompany these sources. Many projects are financed by a combination of the government-related and private sources discussed above in a multi-tiered debt structure in which different investors have different loan priority positions.<sup>129</sup>

Common financing structures use a construction loan with a take-out permanent loan.<sup>130</sup> Construction loans generally work in the following way. Project developers seek commercial banks that have construction finance groups knowledgeable about the type of project and who can assess the project both before and during the construction phases of a project.<sup>131</sup> If the bank agrees to finance the project, the funding is not provided all at once, but throughout various stages of the project based on the construction finance group's calculations of the value and risks of a project in relation to the on-going construction targets and performance thresholds.<sup>132</sup> As construction is closer to completion, take-out financing occurs in which a more long-term loan pays off the construction loan.<sup>133</sup> The take-out loan is amortized and typically paid back over a period of many years similar to a home mortgage.<sup>134</sup>

Banks are not the only entities that provide take-out loans.<sup>135</sup> Tax equity investors<sup>136</sup> are common in providing take-out loans for some types of renewable energy projects, like wind.<sup>137</sup> This is worth illustrating:

Under this model, a wind developer obtains a traditional nonrecourse construction loan with a "take out" by one or more tax

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<sup>128</sup> Scherer, *supra* note 84, at 364.

<sup>129</sup> *Id.* at 388.

<sup>130</sup> *Id.* at 369.

<sup>131</sup> *Id.*

<sup>132</sup> *Id.*

<sup>133</sup> *Construction Loan with Takeout*, BUSINESSFINANCE.COM (June 19, 2007), <http://www.businessfinance.com/articles/construction-loan-with-takeout.htm>; *Construction Loan with Takeout*, BLUE CROWN FUNDING, [http://www.bluecrownfunding.com/comm\\_construction\\_take.html](http://www.bluecrownfunding.com/comm_construction_take.html) (last visited Feb. 19, 2015).

<sup>134</sup> Scherer, *supra* note 84, at 369.

<sup>135</sup> Wong & Marks, *supra* note 15, at 154.

<sup>136</sup> *See infra* Part III.A.1.

<sup>137</sup> Wong & Marks, *supra* note 15, at 154.

equity investors who acquire an interest in the project company as a described below. The construction loan is secured by all of the assets of the project. When the project is completed and is ready to be “placed in service” for tax purposes and, subject to satisfaction of the applicable conditions to the tax equity investors’ obligation to fund their respective equity capital contributions set forth in the Equity Capital Contribution Agreement (ECCA) . . . the tax equity investors will make their equity capital contributions to the project company. The project company will then utilize these equity capital contributions to repay the construction lenders in full, upon which the liens on the project will be released.<sup>138</sup>

Other debt financing structures<sup>139</sup> include back leverage loans<sup>140</sup> and portfolio loans.<sup>141</sup> For purposes of this Article, it is unnecessary to detail each financial structure, but what is crucial is the sources of funds for these financial structures. The debt financial structures depend heavily on capital from private sources like banks and investors. However, the lack of available funding from these sources, combined with recent weaker government support, provides the perfect gap for crowdfunding investors.

## 2. Tax Equity Financing Structure

### a. Partnership Flip Structure

It is common for renewable energy developers to conduct their projects as a partnership or limited liability company (LLC).<sup>142</sup> In a partnership, the project developer can retain control of the project as a general partner of a partnership or managing member of a LLC while creating tax efficient outcomes through “special allocations of income, gain, loss, and credit related to the project.”<sup>143</sup> These features of partnerships are crucial to the “flip structure.”<sup>144</sup>

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<sup>138</sup> *Id.* at 154–55.

<sup>139</sup> *Instruments & Sources for Renewable Energy Projects*, GREEN RHINO ENERGY, [http://www.greenrhinoenergy.com/finance/renewable/finance\\_sources.php](http://www.greenrhinoenergy.com/finance/renewable/finance_sources.php) (last visited Feb. 24, 2014); *Financing Structures*, GREEN RHINO ENERGY, [http://www.greenrhinoenergy.com/finance/renewable/finance\\_structures.php](http://www.greenrhinoenergy.com/finance/renewable/finance_structures.php) (last visited Feb. 24, 2014).

<sup>140</sup> Wong & Marks, *supra* note 15, at 155 (“[Back leverage] debt facilities involve the financing of the cash equity interest in one or more project companies where there is no project level debt and a tax equity take-out of the construction debt.”).

<sup>141</sup> *Id.* (“In a portfolio loan, there is a single debt facility for a holding company that owns several different projects.”).

<sup>142</sup> Foxgrover & Kellar, *supra* note 41, at 682. Under the tax code, LLCs are treated as partnerships. *Id.*

<sup>143</sup> *Id.*

<sup>144</sup> *Id.* at 680.

In the flip structure, the project developer functions as the general partner who manages the construction and day-to-day activities of the energy project.<sup>145</sup> Meanwhile, tax equity investors fund the project and advantageously take on the distributive shares of the partnership so that nearly all the income, gain, loss, deduction, and credits are allocated to them as time passes on.<sup>146</sup> These credits include the PTC and ITC described earlier.<sup>147</sup> Once the investors have reached their preferred return, a “flip” happens in which the project developer starts to get the majority of distributions instead of the investors.<sup>148</sup>

#### b. Lease Pass-Through Structures

This type of structure, used in solar energy projects, operates differently from the flip structure but results in the same outcome in which the investor is able to make tax allocations. Typically, in the lease pass-through structure, an investor provides cash to the partnership entity holding the renewable energy project, and then the energy property is leased to an investor-owned entity as a lessee.<sup>149</sup> The investor receives cash distributions for its initial investment and then receives the benefit of credits as a lessee.<sup>150</sup> This is the simplified version, but, of course, there are certain requirements that need to be met to utilize this structure.<sup>151</sup>

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<sup>145</sup> ANDREA KRAMER & PETER FUSARO, ENERGY AND ENVIRONMENTAL PROJECT FINANCE LAW AND TAXATION: NEW INVESTMENT TECHNIQUES 827 (Andrea S. Kramer et al. eds., 2010).

<sup>146</sup> *Id.*

<sup>147</sup> *See supra* Part III.A.1.

<sup>148</sup> KRAMER & FUSARO, *supra* note 145, at 827. This can be more easily understood using an example:

[I]n a flip structure, prior to the [f]lip [p]oint, the investor may be allocated 99[%] of the partnership’s items of income, gain, loss, deduction, and credit and the developer allocated 1[%] of such items. In addition, 100[%] of all distributions will be made to the investor (after the developer has received distributions equal to its cash contributions) until the [f]lip [p]oint is reached. Typically, the [f]lip [p]oint occurs after the investor has realized its agreed rate of return. After the [f]lip [p]oint, items of income, gain, loss, deduction, and credit are generally allocated substantially to the developer, often 95[%] to the developer and 5[%] to the investor. Similarly, distributions are also made 95[%] to the developer and 5[%] to the investor.

*Id.*

<sup>149</sup> *Id.* at 831.

<sup>150</sup> *Id.*

<sup>151</sup> *Id.* at 831–38.

### c. Sale Leaseback Structure

In a sale leaseback structure, a developer, as a seller-lessee, owns the renewable energy property and sells it to an investor, as the buyer-lessor, who then leases it back to the developer.<sup>152</sup> If done correctly, the investor can claim federal tax credits, and, in many situations, the developer can exercise a call option after a period of a few years to re-obtain the property.<sup>153</sup> Using the sale leaseback structure requires careful attention to the timing of the sale and the placed-in-service date or else credits cannot be claimed.<sup>154</sup>

### d. What's Wrong with the Current Financial Structures?

Due to the difficulty in securing stable financing for renewable energy projects, creative financing models have developed using a combination of debt, equity, and tax incentives. As explained earlier, many of the tax incentives, such as credits and grants, have expired.<sup>155</sup> However, even if such programs were reinstated, only high-income investors can realize the tax credit benefits. Furthermore, experts can agree that utilizing tax financing is both highly technical and complex,<sup>156</sup> which makes tax financing challenging. Ultimately, federal law is not doing enough to facilitate the growth of renewable energy projects with more investments.

## IV. THE ROLE OF ENTREPRENEURS IN FINANCING RENEWABLE ENERGY PROJECTS

The public cannot depend on large public utilities to give them clean and affordable renewable energy. While it would be convenient to denigrate utilities with a monopoly over energy into a pure profit-seeking entity, there is some evidence to the contrary.<sup>157</sup> City or regional cooperatives have also seen some success in which these communities pool money together and utilize the tax

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<sup>152</sup> *Id.* at 839. This model is used in the solar energy field. *Id.*

<sup>153</sup> *Id.*

<sup>154</sup> *Id.*

<sup>155</sup> See *supra* Part III.A.1.

<sup>156</sup> KRAMER & FUSARO, *supra* note 145, at 839; Walsh, *supra* note 60, at 236.

<sup>157</sup> The Sacramento Municipal Utility District's (SMUD's) Solar Shares Program offers customers the option to lease rights to energy produced by a SMUD solar farm. Samantha, Booth, *Community Solar: Reviving California's Commitment to a Bright Energy Future*, 43 ENVTL. L. REP. NEWS & ANALYSIS 10585, 10586–87 (2013). "The program is currently sold out, even though participating customers pay roughly 9% more for solar energy than their nonparticipating counterparts." *Id.*

incentive credits discussed earlier to fund renewable energy projects.<sup>158</sup> In fact, some of the underlying principles of cooperatives, such as the fact that people contribute and pool money together into an investment, are very similar to crowdfunding. However, the problem is that cooperatives require investors to be part of the community to invest,<sup>159</sup> whereas crowdfunding removes these barriers and allows investors from around the world to invest in a project.

#### A. Current Entrepreneurial Successes

The need for clean, renewable energy and the deficient state of unavailable funds for energy projects has got some entrepreneurs thinking. Under existing law, online platforms like Solar Mosaic and SunFunder have successfully funded renewable energy projects. Mosaic provides its investors with an approximate 4.5% return on investment on solar energy projects,<sup>160</sup> and investors do not need to be accredited to use existing securities law.<sup>161</sup> A non-accredited investor residing in California, the first requirement, can invest in these projects under California co-op law as long as the amount invested is less than the \$300 limit per investor.<sup>162</sup> When co-op law is being applied, the Securities and Exchange Commission (SEC) rules do not come into effect

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<sup>158</sup> See Steven Goldman, *Want to Finance a Wind Farm Project in Your Community? Try Crowdfunding*, OFFICE OF ENERGY EFFICIENCY & RENEWABLE ENERGY (Sept. 24, 2013, 10:12 AM), <http://energy.gov/eere/articles/want-finance-wind-farm-project-your-community-try-crowdfunding>.

<sup>159</sup> *Id.*

<sup>160</sup> Andrew Herndon, *Solar Mosaic's Crowdfunding Beats Treasuries with 4.5% Return*, BLOOMBERG (Jan. 7, 2013), <http://www.bloomberg.com/news/articles/2013-01-07/solar-mosaic-s-crowdfunding-beats-treasuries-with-4-5-return>. “[A]s of 11/15/2013, Mosaic has received over \$5.6 million in investments on its platform and more than 2,500 investors.” Will Quinn, *What is Crowdfunding?*, MOSAIC (June 7, 2012), <https://joinmosaic.com/blog/what-is-crowdfunding/>. Compare the promised return on investment of 4.5% to other industries: “10-year Treasuries that are currently squeaking by at 1.90%; CDs (0.5% annual percentage yield); bonds (5.20% average from 2003-2012); and the S&P (4.95% average annualized returns from 2003-2012).” James Montgomery, *Mosaic Plants Crowdfunding Flag for Solar Projects*, RENEWABLEENERGY WORLD.COM (Jan. 9, 2013), <http://www.renewableenergyworld.com/rea/news/article/2013/01/mosaic-plants-crowdfunding-flag-for-solar-projects>.

<sup>161</sup> Aarti Shahani, *Solar Company Can “Crowd Fund” \$100 Million, Regulators Say*, KQED NEWS (Apr. 8, 2013, 5:13 P.M.), [http://www.kqed.org/news/story/2013/04/08/119100/solar\\_company\\_can\\_crowd\\_fund\\_100\\_million\\_regulators\\_say?category=technology](http://www.kqed.org/news/story/2013/04/08/119100/solar_company_can_crowd_fund_100_million_regulators_say?category=technology). Mosaic allows California residents to invest because the California Department of Corporations has allowed it. *Id.* This part is subject to change due to the implementation of the JOBS Act. See *infra* Part IV.A.2. Investors are waiting on the SEC to finalize its rulings on Title III and Title IV, which allow non-institutional investor investments. *Id.*

<sup>162</sup> Rosana Francescato, *Solar Crowdfunding in California: Part 3, San Francisco Energy Cooperative*, MOSAIC (Dec. 20, 2012), <https://joinmosaic.com/blog/solar-crowdfunding-california-part-3-san-francisco-energy-cooperative>.

because the contributions are small and members can vote.<sup>163</sup> Separately, in the context of wind energy, entrepreneurs have also been successful through co-operatives.<sup>164</sup>

SunFunder also allows investments in solar energy with a 100% return on principal, but investors cannot collect interest for their investments.<sup>165</sup> The reason why SunFunder cannot provide interest on investments is due to securities regulation which is discussed in detail later in this Article. Even though these entrepreneurs have successfully utilized existing pseudo-crowdfunding financing options, these securities regulations are the barrier to tapping into the masses. Through new legislation on crowdfunding, entrepreneurs and investors will realize its advantages over traditional models of financing to generate more profitable, clean investments.

### *B. Why Crowdfunding?*

Crowdfunding should be allowed because it creates a new, large source of capital that can support the existing financing structures. Applying crowdfunding to the renewable energy field is not so much a revolutionary idea as “[e]nergy asset crowdfunding resembles energy cooperatives and third-party finance, but it creates two fundamental breaks in those existing structures: it allows cooperative investment without direct participation in energy use, and it allows non-accredited investors to be active third-party financiers.”<sup>166</sup> The federal government should, therefore, be more inclined to pass legislation that supports crowdfunding.

As mentioned earlier in this Article, the first advantage of crowdfunding is its potential to tap into an enormous group of new investors.<sup>167</sup> Analysts predict, “1% of current retail investment in savings accounts, money markets, and [U.S.] Treasuries would provide more than \$90 billion in clean energy

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<sup>163</sup> *Id.* This model of financing is also known as community solar. See the Booth article for a full discussion on this topic along with success stories. Booth, *supra* note 157. Mosaic also offers investments to accredited investors in its portfolio. However, the focus of this Article is on tapping into non-accredited investors through crowdfunding.

<sup>164</sup> Goldman, *supra* note 158.

<sup>165</sup> *FAQ*, SUNFUNDER, <http://sunfunder.com/about/faq> (last visited Feb. 23, 2015). At the time of this writing, over \$388,000 has been invested in PV panels in lesser-developed areas in countries like Zambia and Uganda. SUNFUNDER, <http://sunfunder.com> (last visited Feb. 23, 2015). SunFunder would also encounter problems with securities regulation if it were to offer returns with interest. *Id.*

<sup>166</sup> *Extraordinary Popular Solution: Funding From Crowds?*, BLOOMBERG NEW ENERGY FIN. (June 18, 2012), <http://about.bnef.com/white-papers/extraordinary-popular-solution-funding-from-crowds>.

<sup>167</sup> See *supra* Part I.

crowdfunding.”<sup>168</sup> An accumulation of many small contributions can total millions of dollars for one project. These investors do not need to meet the definition of accredited investors under securities law, which requires a person to have a six-figure income.<sup>169</sup> Arguably, allowing crowdfunding for projects would create less reliance on or need for credits because the crowdfunding investors would not need to realize any tax credit benefits. Assuming projects were well planned and designed to be profitable, more renewable energy projects would be constructed due to the removal of the limited funding barrier.

Another unique feature of crowdfunding is its potential to encourage safer, meaningful investing from the new pool of investors. It creates its own brand of ownership and pride because “this unique financial mechanism relies not just on investor interest, but investor engagement and even emotion. Crowdfunding aggregators and arrangers will need a relationship with their investor-clients, rather than just a transaction with them.”<sup>170</sup> The use of crowdfunding in the context of renewable energy provides the opportunity to reduce a community’s carbon footprint while increasing community cohesion.<sup>171</sup> Investments are also unique because “they are not correlated with the performance of stock or bond markets but with inflation. This is in stark contrast to complex financial derivatives or opaque private equity investments.”<sup>172</sup> Additionally, crowdfunding allows investors to directly invest as they see fit with less hindrances while diversifying their risk through small investments over a variety of projects.<sup>173</sup> In contrast, for example, while an investor can diversify his or her risk in the stock market by investing in multiple different companies, an investor must purchase his or her stock through a broker at a premium market value and at a certain volume. Lastly, crowdfunding has the ability to evolve by creating a secondary market for crowdfunded investments.<sup>174</sup>

Crowdfunding is particularly encouraging of new energy innovations and technology. Virtually anyone can go onto an online crowdfunding platform and submit his or her design for money to further research and development. People that currently donate money on sites like Kickstarter do so simply because they

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<sup>168</sup> *Extraordinary Popular Solution: Funding From Crowds?*, *supra* note 166.

<sup>169</sup> *See infra* Part IV.A.1.

<sup>170</sup> *Extraordinary Popular Solution: Funding From Crowds?*, *supra* note 166.

<sup>171</sup> Rex Kempcke, *Power to the People—Crowdfunding for Community Renewables*, CROWDVALLEY (Oct. 21, 2013), <http://www.crowdvalley.com/news/power-to-the-people-crowdfunding-for-community-renewables> [hereinafter Kempcke, *Power to the People*].

<sup>172</sup> Rex Kempcke, *Economic and Social Benefits of Crowdfunding Clean Energy*, CROWDVALLEY (June 27, 2013), <http://www.crowdvalley.com/1/post/2013/06/economic-and-social-benefits-of-crowdfunding-clean-energy.html> [hereinafter Kempcke, *Benefits of Crowdfunding*].

<sup>173</sup> *Id.*

<sup>174</sup> *Id.*



like the idea.<sup>175</sup> This makes sense considering that one person's small investment will not be a major loss in case the idea fails, but there is a high upside of being part of something in the event the idea becomes successful. While there has yet to be groundbreaking energy developments that impact the energy production market, some smaller scale innovative successes have helped poorer communities in third world countries.<sup>176</sup> In contrast, certain existing investors like VCs are hesitant to invest in unproven technology.<sup>177</sup>

The speed at which crowdfunded projects can be implemented is also impressive.<sup>178</sup> In the existing construction loan and take-out financing structure, additional funding from those investors to the developers is subject to review and calculations of risk at various stages. In contrast, based on existing pseudo-crowdfunding sites, developers would get all their money upfront with no strings attached. Furthermore, for developers that utilized tax incentives,<sup>179</sup> crowdfunding would remove the complexity and time requirements.

The role that location plays in a renewable energy investment is lessened under crowdfunding, which is a positive characteristic. Crowdfunded projects are adaptable in size that addresses the needs of the area, and it can be something as "small [as a] solar PV on a school roof to a wind farm on the edge of town or a small hydro project owned by a nearby village."<sup>180</sup> Smaller projects, previously not seen as worthy of investment by large companies or utilities, can be completed in urban areas. On the opposite spectrum, third world countries have seen successful crowdfunded projects in rural areas.<sup>181</sup>

### *C. Potential Disadvantages of Crowdfunding*

Crowdfunding is so new that no one is certain of its dangers, but many

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<sup>175</sup> Ideas submitted are sometimes purely conceptual with the inventor having little to no fiduciary obligation. Andy Read, *Crowdfunding: An Empirical and Theoretical Model of Non-Profit Support* (Mar. 2013) (unpublished B.S. thesis, University of Puget Sound) (on file with author), available at [http://soundideas.pugetsound.edu/cgi/viewcontent.cgi?article=1098&context=economics\\_theses](http://soundideas.pugetsound.edu/cgi/viewcontent.cgi?article=1098&context=economics_theses). This should create an inherent risk that dissuades investment, yet crowdfunding investors still invest with only a small non-monetary reward as the maximum gain. *See id.* "The non-profit rewards allow crowdfunding donors to feel involved in the process and become part of a community." *Id.* at 7. The contribution is an act of altruism and provides a "warm glow." *Id.*

<sup>176</sup> *See About Us*, KIVA, <http://www.kiva.org/about> (last visited Feb. 20, 2014).

<sup>177</sup> *See supra* Part III.A.2.c.

<sup>178</sup> Booth, *supra* note 157, at 10590. Under a proper regulatory scheme, a PV can be installed and connected to the grid in a matter of months, whereas an industrial solar plant may take ten years from inception to completion. *Id.*

<sup>179</sup> In an ideal situation, tax incentives could still be used.

<sup>180</sup> Kempcke, *Power to the People*, *supra* note 171.

<sup>181</sup> Garcia, *supra* note 39.

scholars have detailed its potential pitfalls. The first problem is the inherent volatile nature of funding projects, businesses, and start-ups.<sup>182</sup> More new businesses fail than succeed.<sup>183</sup> The possibility of developing new technology or unproven technology is a double-edged sword as well; “unproven products or services . . . have no guarantee of success.”<sup>184</sup> Another problem is the possible illiquidity and non-existence of a secondary market, which results in crowdfunding investors being unable to resell or exchange their investment.<sup>185</sup>

The other major concern legislators and securities law are concerned with is the possibility of fraud. The use of an Internet platform “makes it difficult for investors to determine the legitimacy of a business because real-life encounters are replaced with virtual meetings.”<sup>186</sup> This can create information asymmetry where an ill-willed entrepreneur takes advantage of an investor’s lack of knowledge.<sup>187</sup> Additionally, this information asymmetry can lead to self-dealing in the form of compensation and misuse of corporate opportunities by an entrepreneur because investors cannot regulate what they do not know.<sup>188</sup> While there are many great advantages to crowdfunding, there are real concerns that legislators must address.

#### V. WHAT IS THE CURRENT STATE OF CROWDFUNDING?

Popular online platforms such as KickStarter, IndieGoGo, and Kiva, are examples of pseudo-crowdfunding<sup>189</sup> in which money is raised through “small contributions from a large number of people.”<sup>190</sup> However, while they operate by having many investors contribute money to a project, there is not a return on their investments.<sup>191</sup> The money put into a project is more like a donation or

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<sup>182</sup> Shekhar Darke, *To Be or Not to Be A Funding Portal: Why Crowdfunding Platforms Will Become Broker-Dealers*, 10 HASTINGS BUS. L.J. 183, 188 (2014).

<sup>183</sup> *Id.* at 189.

<sup>184</sup> *Id.*

<sup>185</sup> *Id.* at 188–89.

<sup>186</sup> *Id.* at 189.

<sup>187</sup> *Id.* Darke provides the example of the “pump and dump” schemes in the 1990s as a parallel to the possible Internet fraud resulting from crowdfunding. *Id.* In the pump and dump scheme, stock brokers owned a company’s stock and aggressively sold that company’s stocks at artificially high prices using phone and Internet campaigns before the stock brokers sold their own shares at higher prices. *Id.*

<sup>188</sup> *Id.* at 189–90.

<sup>189</sup> For this Article, hereinafter crowdfunding investments with a return of interest are referred to as “crowdfunding” while other models like donation-based crowdfunding are referred to as “pseudo-crowdfunding” for simplicity, even though they are still technically crowdfunding.

<sup>190</sup> C. Steven Bradford, *Crowdfunding and the Federal Securities Laws*, 2012 COLUM. BUS. L. REV. 1, 5 (2012).

<sup>191</sup> Bradford discusses the different types of crowdfunding such as: “(1) the donation model; (2)

loan without interest, rather than an investment, which does not trigger securities laws. Securities law is the reason why crowdfunding with a return on interest is not allowed in the United States.<sup>192</sup> These laws are meant to protect investors against fraud and the government has only in the last few years begun to allow this type of crowdfunding.<sup>193</sup>

### A. History of Crowdfunding Legislation

#### 1. Federal Securities Law

A brief analysis of federal securities law is necessary to understand the new changes of crowdfunding laws. In the 1920s, “speculative frenzies” created a volatile stock market that led to a massive stock market crash.<sup>194</sup> Congress responded by passing the Securities Act of 1933 (Securities Act) and the Securities Exchange Act of 1934 (Exchange Act).<sup>195</sup> The Securities Act was intended to stabilize the stock market by “(1) requir[ing] investors to receive all significant information necessary to make an informed decision regarding the purchase of a security; and (2) ‘prohibit deceit, misrepresentations, and other fraud in the sale of securities.’”<sup>196</sup> This was accomplished by requiring the issuer of a security to submit its “registration statement”<sup>197</sup> to the SEC, which the Exchange Act created,<sup>198</sup> for review prior to a public offering of the security. Completing a registration form can be an arduous task, requiring time and capital, as it requires a company to disclose a large amount of information including the “owner, underwriter, and director background information, a description of the business, a balance sheet, and a profit and loss statement.”<sup>199</sup>

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the reward model; (3) the pre-purchase model; (4) the lending model; and (5) the equity model.” *Id.* at 14. In terms of Bradford’s crowdfunding-type framework, this Article’s discussion focuses on the equity model. Kickstarter and IndieGoGo are a hybrid of the reward model and pre-purchase model in which the person donating money typically receives a physical prototype of a product, or some kind of perk. *Id.* at 16–19. Kiva is an example of crowdfund lending without a return on interest. *Id.* at 20–21.

<sup>192</sup> *Id.* at 6, 49.

<sup>193</sup> See discussion *infra* Part IV.A.2.

<sup>194</sup> Benjamin P. Siegel, *Title III of the Jobs Act: Using Unsophisticated Wealth to Crowdfund Small Business Capital or Fraudsters’ Bank Accounts?*, 41 HOFSTRA L. REV. 777, 782 (2013).

<sup>195</sup> *Id.* at 782. The Exchange Act created guidelines for the transfer of stock after the initial offering in what is called a secondary market. *Id.* The Exchange Act also created the SEC, the regulatory body of securities. *Id.* This Act furthered investor protection by having the SEC require and review the financial statements of publicly traded securities. *Id.*

<sup>196</sup> *Id.*

<sup>197</sup> *Id.* at 783.

<sup>198</sup> *Id.* at 782.

<sup>199</sup> *Id.* at 783.

However, to the benefit of some companies, some securities offerings are exempt from registration requirements.<sup>200</sup> Under Regulation D, the SEC created exemptions under Rule 504, 505, and 506.<sup>201</sup> Rules 505 and 506 exempted registration requirements for companies that sold their securities to “accredited” investors—those who met a certain standard of financial sophistication or high net worth.<sup>202</sup> An accredited investor is someone who is:

(a) an individual or [has a] joint net worth (including their spouse’s income) of over \$1,000,000; or (b) the person has an individual income in excess of \$200,000 (or \$300,000 joint income with their spouse) in each of the two most recent years and has a “reasonable expectation of reaching the same income level in the current year.”<sup>203</sup>

The theory is that accredited investors are savvy enough to avoid fraud and absorb the possible loss in a bad investment.<sup>204</sup> In contrast, Rule 504 does not exempt companies who sell securities to accredited investors, but “such offerings do not permit general solicitation of investors unless they are subject to a state registration requirement or a state exemption that limits the offering to accredited investors only.”<sup>205</sup>

In the early years of Internet crowdfunding, there was a debate as to whether the above securities law even applied to crowdfunding financing, and if it did whether crowdfunding could fit within one of the registration exemptions, but that debate has been settled.<sup>206</sup> United States federal securities law does apply,<sup>207</sup> but, prior to the passage of Title II, III, and IV of the JOBS Act<sup>208</sup>—the

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<sup>200</sup> 15 U.S.C. § 77d (2012).

<sup>201</sup> 17 C.F.R. §§ 230.504–506 (2012).

<sup>202</sup> Siegel, *supra* note 194, at 784.

<sup>203</sup> *Id.* at 784–85 (summarizing the main requirements of 17 C.F.R. §§ 230.215(e)–(f) (2012)).

<sup>204</sup> *Id.* at 784.

<sup>205</sup> *Id.*

<sup>206</sup> Bradford, *supra* note 190, at 49.

<sup>207</sup> Determining whether something is a security is necessary to determine whether securities law applies. Under the *Howey* test, “an investment contract [or security] for purposes of the Securities Act means a contract, transaction[,] or scheme whereby a person invests his money in a common enterprise and is led to expect profits solely from the efforts of the promoter or a third party.” Sec. and Exch. Comm’n v. W.J. Howey Co., 328 U.S. 293, 298–99 (1946). An investment contract has been interpreted to mean an expansive catchall definition term for a security. Bradford, *supra* note 190, at 30–31. Over the years, the test has changed in minor ways except for the word “solely,” which has been eliminated and replaced with the question of “whether the efforts made by those other than the investor are the undeniably significant ones, those essential managerial efforts which affect the failure or success of the enterprise.” *Id.* at 31 (citing Sec. and Exch. Comm’n v. Glenn W. Turner Enters., Inc., 474 F.2d 476, 482 (9th Cir. 1973); *accord* Sec. and Exch. Comm’n v. Koscot Interplanetary, Inc., 497 F.2d 473, 483 (5th Cir. 1974)). Crowdfunding in which investors get a return on investment are essentially securities. *See id.*; Joan MacLeod Heminway & Shelden Ryan

governing securities law over crowdfunding—entrepreneurs and crowdfunding sites had to find exemptions within securities law.<sup>209</sup> The main two issues centered on whether the entrepreneur’s idea or “offering” to the public was subject to the registration requirements of the Securities Act and whether the online crowdfunding platforms violated securities law “solicitation” rules.<sup>210</sup> However, very recently, Congress has passed new legislation creating new rules, which allow crowdfunding through the JOBS Act.

## 2. *The JOBS Act*

On April 5, 2012, President Obama signed into law the Jumpstart Our Business Startups Act of 2012 (JOBS Act) to increase American job creation and economic growth by improving accessibility of capital markets to startup businesses.<sup>211</sup> It passed with wide public and bipartisan Congressional support.<sup>212</sup> The JOBS Act furthered its purpose by amending the Securities Act and Exchange Act, the old bodies of security law that have remained unchanged for nearly eighty years.<sup>213</sup>

Title I of the JOBS Act generally reduces the financial reporting

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Hoffman, *Proceed at Your Peril: Crowdfunding and the Securities Act of 1933*, 78 TENN. L. REV. 879, 892–906 (2011).

<sup>208</sup> Jumpstart Our Business Startups Act, Pub. L. No. 112-106, 126 Stat. 306 (2012), available at <http://www.gpo.gov/fdsys/pkg/BILLS-112hr3606eh/pdf/BILLS-112hr3606eh.pdf>. It passed in 2012. *Id.*

<sup>209</sup> Bradford, *supra* note 190, at 29. Bradford provides an overview of the issue:

Section 5 of the Securities Act and the SEC rules associated with Section 5 are a morass of prohibitions, exceptions, conditions, and exceptions to exceptions, but the basic prohibitions are clear. Absent an exemption, an issuer may not offer a security for sale until a registration statement has been filed with the SEC. And[,] an issuer may not sell a security until that registration statement has become effective. But[,] the registration requirements apply only if the entrepreneurs on crowdfunding sites are offering securities. If crowdfunding investments are not securities, the federal securities laws do not apply.

*Id.* at 30.

<sup>210</sup> *Id.* at 29. “‘General solicitation’ includes advertisements published in newspapers and magazines, public websites, communications broadcasted over television and radio, and seminars where attendees have been invited by general solicitation or general advertising.” *Eliminating the Prohibition Against General Solicitation and General Advertising in Rule 506 and Rule 144A Offerings*, SEC, <http://www.sec.gov/info/smallbus/secg/general-solicitation-small-entity-compliance-guide.htm> (last modified Sept. 20, 2013). A small start-up trying to utilize crowdfunding as a source of capital, which is a general solicitation, could not do so unless it also registered. *Id.* Crowdfunding counts as a “public offering” as opposed to a “private offering”. *Id.*

<sup>211</sup> 126 Stat. at 306.

<sup>212</sup> Nickolas C. Jensen, *Fundraising on the Internet Crowdfunding, Kickstarter and the Jobs Act*, ARIZ. ATT’Y, Mar. 2013, at 22.

<sup>213</sup> Siegel, *supra* note 194, at 782–83.

obligations of a new class of issuers called “Emerging Growth Companies.”<sup>214</sup> Title II permits general solicitation and advertising for securities offerings made pursuant to Rule 506 of Regulation D and Rule 144A of the Securities Act.<sup>215</sup> Title III of the JOBS Act creates a registration exemption and lessens required issuer disclosures for certain companies seeking to crowdfund up to \$1 million over the course of a twelve-month period.<sup>216</sup> Title IV grants the SEC the responsibility of crafting a new exemption for small private offerings of fewer than \$50 million.<sup>217</sup> Finally, Titles V and VI amend the number of record holders of a security permitted before mandatory registration requirements are triggered under the Securities Acts.<sup>218</sup>

With the JOBS Act enacted, Title I went into immediate effect; however, the SEC is required to create new rules implementing Titles II through VI before they take full effect.<sup>219</sup> To address the needs of capital in funding renewable energy, only Titles III and IV are analyzed.

#### a. Title III–Crowdfunding

Title III, also known as the CROWDFUND Act, amends section 4(a)(6) of the Securities Act to create a registration exemption so that small businesses can raise “capital by removing or minimizing costly regulations.”<sup>220</sup> However, Title III cannot go into effect until the SEC issues its final rules.<sup>221</sup> On October 23, 2013, the SEC proposed its Title III Rulings that would implement these exemptions.<sup>222</sup> A ninety-day public commenting period takes place, and then the SEC considers these comments and spends another thirty days revising the proposed rule.<sup>223</sup> After this period, the SEC proposes its rulings for a final

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<sup>214</sup> Jumpstart Our Business Startups Act, Pub. L. No. 112-106, 126 Stat. 306 (2012), available at <http://www.gpo.gov/fdsys/pkg/BILLS-112hr3606eh/pdf/BILLS-112hr3606eh.pdf>.

<sup>215</sup> *Id.*

<sup>216</sup> *Id.*

<sup>217</sup> *Id.*

<sup>218</sup> Siegel, *supra* note 194, at 788. There is also a Title VII, but it has little to do with changes in securities law. 126 Stat. at 306 Title VII tells the SEC to inform businesses of the changes made by the JOBS Act. *Id.*

<sup>219</sup> *Id.* For more summarized information about the different Titles of the JOBS Act, visit <http://www.forbes.com/sites/realspin/2013/10/08/the-jobs-act-isnt-all-crowdfunding/>.

<sup>220</sup> Siegel, *supra* note 194, at 790.

<sup>221</sup> Jumpstart Our Business Startups Act, Pub. L. No. 112-106, 126 Stat. 306, 316 (2012).

<sup>222</sup> Chance Barnett, *JOBS Act Title III: Investment Being Democratized, Moving Online*, FORBES (Oct. 23, 2013), <http://www.forbes.com/sites/chancebarnett/2013/10/23/sec-jobs-act-title-iii-investment-being-democratized-moving-online/>.

<sup>223</sup> *Id.*

vote.<sup>224</sup> At the time of initial research of this Article in January 2014, interested parties believed Title III crowdfunding rules would be set by 2014.<sup>225</sup> However, as of January 6, 2015, everyone is still waiting for the federal SEC rules to be finalized, while in the meantime individual states are taking their own steps to regulate crowdfunding.<sup>226</sup>

Until the final rules are adopted, there is no set law. But, under Title III as enacted, entrepreneurs would be allowed to raise up to \$1 million in a twelve-month period as long as the “(1) issuer [or entrepreneur] meets certain requirements, (2) the offering is conducted through a registered broker or ‘funding portal’ that complies with certain requirements, and (3) the amount raised from any one investor does not exceed certain limits.”<sup>227</sup> Funding portals are very much similar to the online crowdfunding platforms that already exist with some key requirements to maintain their independence from conflicts of interest and to prevent fraud.<sup>228</sup>

Of course, investors would also have to abide by certain rules under Title III.<sup>229</sup> This includes that:

The aggregate amount of securities sold by an issuer to any one investor during a [twelve]-month period may not exceed: [f]or investors whose annual income and net worth do not exceed \$100,000, the greater of (1) \$2,000 or (2) 5[%] of the investor’s annual income or net worth; and [f]or investors whose annual income or net worth exceeds \$100,000, the lesser of (1) \$100,000 or

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<sup>224</sup> *Id.*

<sup>225</sup> *Id.*

<sup>226</sup> *What is Title III? (Equity Crowdfunding)*, MASSCATALYST (Jan. 14, 2015), <http://masscatalyst.com/news/what-is-title-iii-equity-crowdfunding/>; see Kendall Almerico, *SEC Delays Equity Crowdfunding Piece of JOBS Act for Another Year*, ENTREPRENEUR (Dec. 8, 2014), <http://www.entrepreneur.com/article/240558>.

<sup>227</sup> Jensen, *supra* note 212, at 22.

<sup>228</sup> This law was designed with input from the online crowdfunding platform community. Crowdfunding, Securities Act Release No. 9470, Exchange Act Release No. 70741, 2013 WL 5770346 (Oct. 23, 2013), available at <http://www.sec.gov/rules/proposed/2013/33-9470.pdf>. Official codification of the definition can be found at 15 U.S.C. § 78c (2012). “Funding portals must register with the SEC and the Financial Industry Regulatory Authority (FINRA).” Jensen, *supra* note 212, at 23.

A funding portal (and its officers, directors, partners or those in similar roles or functions) may not invest in any offering or otherwise have a financial interest in any issuer that makes any offering listed on the funding portal’s website. Funding portals are also prohibited from giving investment advice (other than basic disclosures described below), soliciting investors to invest in offerings listed on their website, or compensating its employees based on sales of securities listed on the funding portal’s website.

*Id.* at 23.

<sup>229</sup> Jensen, *supra* note 212, at 23.

(2) 10[%] of the investor's annual income or net worth.<sup>230</sup>

Practically speaking, "most investors will likely invest \$2,000 or less in a crowdfunding offering, as any investment under this amount does not require an investor to prove [his or her] annual income or net worth."<sup>231</sup>

Issuers, those offering the security, have many requirements as well. Most of these requirements are in place to ensure transparency and to prevent fraud.<sup>232</sup> This includes:

(A) background information pertaining to the issuer; (B) background information on any director, officer, and each person holding more than [20%] of the shares of the issuer; (C) a description of the business and anticipated business of the issuer; (D) a description of the financial condition of the issuer including other recent offerings; (E) a summary of the intended use of the proceeds; (F) an outline and regular updates regarding the target contribution amount and the deadline for reaching that amount; (G) the price of the securities or a description of the formula used to calculate that price; (H) a summary of the ownership and structure of the issuer; and (I) other information as deemed necessary by the SEC.<sup>233</sup>

There is also potential for a secondary market but:

Securities issued under Section 4(6) will be restricted from resale for a period of one year after issuance. Crowdfunded securities may only be transferred within the one year period (1) to the issuer; (2) to

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<sup>230</sup> *Id.*

<sup>231</sup> *Id.*

<sup>232</sup> *Id.*

Eligible issuers must, prior to any crowdfunding offering, file with the SEC and make available to potential investors key information regarding the nature of the issuer's business and the terms of the offering. The filing must include the name of the issuer and the identities of all officers, directors, and 20[%] equity owners of the issuer. It also must include a business plan; a description of the ownership, capital structure and financial condition of the issuer; detailed terms of the securities being offered; a statement of the intended use of the proceeds; and other information.

Depending on the target amount of the offering, the issuer must provide varying levels of financial information, ranging from the most recent tax return (if any) and financial statements certified by the principal executive officer (for aggregate offerings under \$100,000) to audited financial statements (for aggregate offerings of more than \$500,000).

In addition, issuers of crowdfunded securities must provide reports no less than annually to the SEC and investors disclosing the results of operations and financial statements.

*Id.*

<sup>233</sup> Siegel, *supra* note 194, at 792–93.



an accredited investor; (3) pursuant to a subsequent registered offering; or (4) to a family member or other affiliate.<sup>234</sup>

Securities issued under III are “covered securities” exempt from state registration requirements,<sup>235</sup> which alleviates some problems between federal and state security law.

*i. The Effect of Title III on Renewable Energy*

*Crowdfunding*

The large potential problem for entrepreneurs in the renewable energy market under Title III exemption is that in the current proposed rule there is a limit of raising no more than \$1 million per year.<sup>236</sup> While smaller projects such as community-scale solar PVs or small wind farms that produce up to 200-kilowatts could be funded,<sup>237</sup> larger scale energy projects over this \$1 million threshold would not be able to fully utilize the billions of dollars available.<sup>238</sup> Companies seeking Title III exemptions in the amount between \$500,000 and \$1 million must also provide audited financial statements, adding a significant cost to small, new companies with little capital to begin with.<sup>239</sup> This makes Title III, at the moment, “unattractive, if not prohibitive—particularly [because] these costs must be incurred up front, before there are any assurances of a successful capital raise.”<sup>240</sup> Similarly, small businesses seeking less than \$500,000 will incur legal compliance costs that serve to dissuade efficient crowdfunding investing.<sup>241</sup>

Under Title III, what would be the solution? In what seems to be a very unlikely scenario at the moment, the cap would have to be removed. During

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<sup>234</sup> Jensen, *supra* note 212, at 24.

<sup>235</sup> *Id.*

<sup>236</sup> This information is from the SEC press release regarding the Title III rule proposal, which succinctly states the main features of the proposed rule. Press Release, Sec. and Exch. Comm’n, SEC Issues Proposal on Crowdfunding (Oct. 23, 2013), available at <http://www.sec.gov/News/PressRelease/Detail/PressRelease/1370540017677#.VLNMQCvF8ok>. Accompanying analyses to these rules and the actual language of the proposed rules are also available. Crowdfunding, Securities Act Release No. 9470, Exchange Act Release No. 70741, 2013 WL 5770346 (Oct. 23, 2013), available at <http://www.sec.gov/rules/proposed/2013/33-9470.pdf>.

<sup>237</sup> *New Approaches in Renewable Energy Finance*, *supra* note 40.

<sup>238</sup> See *supra* notes 6–7.

<sup>239</sup> Samuel S. Guzik, *Regulation A+ Offerings—A New Era at the SEC*, HARVARD LAW SCH. FORUM ON CORPORATE GOVERNANCE AND FIN. REGULATION (JAN. 15, 2014, 9:02 AM), <https://blogs.law.harvard.edu/corpgov/2014/01/15/regulation-a-offerings-a-new-era-at-the-sec/>.

<sup>240</sup> *Id.*

<sup>241</sup> *Id.*

Title III's comment period, renewable energy entrepreneurs can hope that this \$1 million is increased. Otherwise, companies will have to maneuver through the rules in another way. One method would be a company aggregating its funds to "create many subsidiaries so each entity can raise money independent of the other,"<sup>242</sup> but the SEC has not created any rules about this yet. Fortunately, Title IV shows some promise.

#### b. Title IV—Small Company Capital Formation

On December 18, 2013, the SEC issued its proposed rules for Title IV, which is now referred to as "Regulation A+."<sup>243</sup> Title IV expands another SEC registration exemption known as Regulation A by increasing the fundraising ceiling from \$5 million to \$50 million annually.<sup>244</sup> Regulation A has been in existence for over twenty years, but is seldom used.<sup>245</sup> During this time, Regulation A allowed companies to raise up to \$5 million through a "mini-registration" process with the SEC—allowing public solicitation of both accredited and non-accredited investors and the ability to issue shares which are freely tradeable."<sup>246</sup> Regulation A advantages include such features as:

- (i) reduced disclosures to investors relative to a full SEC registration, including the ability to utilize "reviewed" financial statements instead of audited financial statements, (ii) limited SEC review, (iii) the ability to "test the waters" with investors prior to incurring significant upfront costs such as filing of an offering memorandum with the SEC, (iv) the ability of an investor to receive free trading shares upon their issuance, and (v) the absence of post-offering reporting requirements unless and until a company meets the threshold reporting requirements applicable to all companies under the Securities Exchange Act of 1934.<sup>247</sup>

However, few companies utilize these advantages because the regulatory costs to comply with Regulation A *and* each state's blue sky law relative to the

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<sup>242</sup> James Montgomery, *What Do The New Crowdfunding Rules Mean For Renewables?*, ALT ENERGY STOCKS (Nov. 11, 2013, 8:16 AM), [http://www.altenergystocks.com/archives/2013/11/what\\_do\\_the\\_new\\_crowdfunding\\_rules\\_mean\\_for\\_renewables\\_1.html](http://www.altenergystocks.com/archives/2013/11/what_do_the_new_crowdfunding_rules_mean_for_renewables_1.html).

<sup>243</sup> Proposed Rule Amendments for Small and Additional Issues Exemptions Under Section 3(b) of the Securities Act, Securities Act Release No. 33-9497, Exchange Act Release No. 34-71120 (Dec. 18, 2013), *available at* <http://www.sec.gov/rules/proposed/2013/33-9497.pdf> [hereinafter *Title IV Proposal*].

<sup>244</sup> *Id.*

<sup>245</sup> Guzik, *supra* note 239.

<sup>246</sup> *Id.*

<sup>247</sup> *Id.*

\$5 million limit makes it an ineffective means of raising capital.<sup>248</sup> Furthermore, some states disallow certain offerings, like those in the biotechnology industry, because such industries “generate little or no revenue in their early years and do not expect to be profitable under any scenario for at least three to five years.”<sup>249</sup>

Regulation A+ proposes to fix these limitations. First, the annual limit of \$5 million will change to \$50 million.<sup>250</sup> As a precondition to this new limit, audited financial statements and ongoing periodic reporting is required, but these additional costs are now justified relative to the amount of capital being sought.<sup>251</sup> Second, Regulation A+ creates two new categories of securities—“(1) offerings limited to ‘qualified purchasers’, and (2) securities offered and sold on a national securities exchange”—which are exempted from needing to comply with a state’s blue sky law.<sup>252</sup> Essentially, this means federal securities law trumps state law for companies seeking an exemption under Title IV to raise more than \$5 million.

The proposed Title IV creates two tiers of offerings; Tier 1 includes offerings up to \$5 million and Tier II is up to \$50 million.<sup>253</sup> Tier II offerings have the additional burden over the existing Regulation A rules to file “disclosure more onerous than current Regulation A, audited financial statements, and periodic disclosures.”<sup>254</sup>

Similar to Title III, Title IV is still in the rulemaking process in which public comments will have to be reviewed before a final rule can be made.<sup>255</sup> According to one securities law expert, Title IV will be a battle between the SEC and “state regulators seeking to preserve their autonomy to review securities offerings at the state level.”<sup>256</sup> Additionally, the JOBS Act did not set a deadline for the SEC to promulgate its Title IV rules creating uncertainty as to when Title IV will be finalized.<sup>257</sup> The SEC’s Title IV press release also solicited comments on whether \$5 million and under offerings should also be exempt from a state blue sky law which, if included in the final rule, would be to

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<sup>248</sup> *Id.*

<sup>249</sup> *Id.*

<sup>250</sup> *Title IV Proposal*, *supra* note 243.

<sup>251</sup> Guzik, *supra* note 239.

<sup>252</sup> *Id.*

<sup>253</sup> *Title IV Proposal*, *supra* note 243.

<sup>254</sup> Guzik, *supra* note 239.

<sup>255</sup> Last checked on Jan. 11, 2015. See generally JD Alois, *Rumors Swirl That JOBS Act Rules Hit Next Week*, CROWDFUND INSIDER (Dec. 6, 2014, 3:54 PM), <http://www.crowdfundinsider.com/2014/12/58631-rumors-swirl-jobs-act-rules-hit-next-week/>.

<sup>256</sup> After the SEC released its proposed Regulation A+ rules, Secretary of the Commonwealth of Massachusetts William F. Galvin immediately responded with opposition. Guzik, *supra* note 239.

<sup>257</sup> Guzik, *supra* note 239.

the benefit of renewable entrepreneurs seeking crowdfunded capital in the range of \$1 million to \$5 million by reducing legal compliance costs.<sup>258</sup>

### 3. Title II, III, or IV?

What avenue of crowdfunding should the renewable energy entrepreneur pursue? Under Title III, or the Crowdfund Act, the maximum limit of \$1 million and financial reporting fees can be unviable for large renewable energy projects; however, smaller renewable energy projects may be able to utilize the exemption. Companies seeking Title III exemption in the amount between \$500,000 and \$1 million must submit “audited financial statements . . . , ongoing annual reports to investors, limitations on direct public solicitation, and one year of non-transferability of the crowdfunded securities.”<sup>259</sup>

Renewable energy entrepreneurs seeking amounts in the \$1 million to \$5 million range are in a bit of a dilemma. Under the proposed Title IV exemption, these developers would be considered Tier I, but, unfortunately, the same requirements of the old Regulation A would still be in effect.<sup>260</sup> Costs of compliance may not justify seeking this exemption for the same reasons businesses did not use the original Regulation A. Entrepreneurs may have to seek capital in excess of \$5 million under Title IV, even if it is impractical or financially unnecessary. As another solution, some experts have argued that Title II’s amendment of Rule 506 gets around this problem because the rule allows:

[C]ompanies to raise an unlimited amount of capital from “accredited investors” in a private placement without any particular type of disclosure—and new Rule 506(c) allows companies to engage in general solicitation and advertising, so long as all of the investors are accredited and the company takes measures reasonably calculated to ensure that all investors are in fact accredited.<sup>261</sup>

However, this defeats the purpose of being able to crowdfund from the masses of common people.

Renewable energy entrepreneurs seeking amounts in the \$5 million to \$50 million range are in a much better position. Under Title IV, the entrepreneur can engage in public solicitation of non-accredited investors provided that the entrepreneur completes his or her registration and provides audited financial

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<sup>258</sup> *Id.*

<sup>259</sup> *Id.*

<sup>260</sup> *Title IV Proposal*, Securities Act Release No. 33-9497, Exchange Act Release No. 34-71120 (Dec. 18, 2013).

<sup>261</sup> Guzik, *supra* note 239.

disclosures.<sup>262</sup> This means the entrepreneur could use an online crowdfunding platform to solicit investors. The maximum amount of potential money raised offsets the high costs of registration and disclosure.<sup>263</sup>

With the existing private financial sources available in addition to the new crowdfunding rules, entrepreneurs should have enough capital to meet their needs.

## VI. ALTERNATIVES TO CROWDFUNDING

While effective crowdfunding legislation could potentially produce enough capital for most energy projects, other existing financial structures and sources like real estate investment trusts (REITs) and master limited partnerships (MLPs)<sup>264</sup> have not yet been applied to financing renewable energy projects but show some promise. These alternatives warrant some discussion but have yet to be passed into law as opposed to crowdfunding.

The Environmental and Energy Study Institute has conducted a study advocating the use of MLPs.<sup>265</sup> MLPs “are a corporate structure defined in Section 7704 of the Internal Revenue Code” and act:

[A]s an opportunity for small investors to invest in companies which benefit from tax privileges and for companies to raise new capital. MLPs are taxed as partnerships but are traded on stock exchanges and can sell shares similarly to C-corporations. MLPs pass the majority of their income down to their shareholders.<sup>266</sup>

Some other key features include pass-through taxation at the shareholder level as opposed to a double taxation at the corporate and shareholder levels in some other business forms, and the ability of individual investors to purchase stocks in MLPs, which results in “freeing up significant capital and decreasing the cost of

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<sup>262</sup> *Title IV Proposal*, Securities Act Release No. 33-9497, Exchange Act Release No. 34-71120.

<sup>263</sup> Guzik, *supra* note 239.

<sup>264</sup> Felix Mormann & Dan Reicher, *How to Make Renewable Energy Competitive*, N.Y. TIMES, June 1, 2012, available at [http://www.nytimes.com/2012/06/02/opinion/how-to-make-renewable-energy-competitive.html?pagewanted=all&\\_r=1&](http://www.nytimes.com/2012/06/02/opinion/how-to-make-renewable-energy-competitive.html?pagewanted=all&_r=1&). These methods are available for nonrenewable energy financing but not yet for renewable energy. *Id.* Master limited partnerships have formally been proposed by Congressman Coons. *Id.* According to John Marciano, partner at Chadbourne & Parke LLP, REITs and MLPs have “the promise of raising cash equity, but not tax-equity.” Montgomery, *supra* note 230; see also Michael Mendelsohn and David Feldman, *Financing U.S. Renewable Energy Projects Through Public Capital Vehicles: Qualitative and Quantitative Benefits*, NAT’L RENEWABLE ENERGY LAB. (Apr. 2013), available at <http://www.nrel.gov/docs/fy13osti/58315.pdf> (containing an analysis of the impact and effects of MLPs and REITs in which the authors refer to as “public capital vehicles”).

<sup>265</sup> *New Approaches in Renewable Energy Finance*, *supra* note 40.

<sup>266</sup> *Id.*

borrowing” for the MLP.<sup>267</sup> Some analysts put the market capitalization of MLPs at more than \$400 billion with an average return of 6% in a MLP market consisting of approximately 89% energy projects.<sup>268</sup>

Unfortunately, MLP financing in energy projects is limited to traditional fossil fuel projects. “Section 613 of the IRC requires that MLPs receive 90[%] of their income from a qualified ‘depletable’ resource such as coal, oil, or natural gas extraction or pipelines.”<sup>269</sup> While there is bipartisan support in Congress for expanding coverage to include renewable resources, the Master Limited Partnerships Parity Act is still being considered before it becomes law.<sup>270</sup>

REITs are another legal entity that show some promise in renewable energy financing. REITs originally started as a method for investors with less capital to pool their money together to purchase assets and property in the real estate market.<sup>271</sup> REITs are now typically “companies that own, and often manage, income-producing properties and are publicly traded as liquid stocks on major exchanges.”<sup>272</sup> REITs are similar to MLPs in that it also only has taxation on the shareholder level that benefits investors receiving average dividends of less than 10%.<sup>273</sup> In 2012, the market capitalization of REITs was over \$600 billion.<sup>274</sup>

Also similar to MLPs, REIT financing for renewable energy is currently unavailable.<sup>275</sup> The issue is that, under Section 856 of the IRC, REITs are only valid if the company derives 75% of its revenue through real estate rent, and renewable energy generation does not meet this requirement.<sup>276</sup> Proponents of incorporating renewable energy into REITs have tried to argue that energy sold from renewable energy plants can qualify as rent<sup>277</sup> or as a form of “real

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<sup>267</sup> *Id.*

<sup>268</sup> Mormann & Reicher, *supra* note 252; Chris Coons, *The Master Limited Partnerships Parity Act*, <http://www.coons.senate.gov/issues/master-limited-partnerships-parity-act#broad-support-for-mlps> (last visited Feb. 24, 2015).

<sup>269</sup> *New Approaches in Renewable Energy Finance, supra* note 40.

<sup>270</sup> Master Limited Partnerships Parity Act, S.795, 113th Cong. (2013). According to Congress.gov, the latest action occurred on April 2, 2013, in which the bill was read twice and referred to the Committee on Finance. *Id.*

<sup>271</sup> *New Approaches in Renewable Energy Finance, supra* note 40.

<sup>272</sup> *Id.*

<sup>273</sup> *Id.*

<sup>274</sup> *US REIT Industry Equity Market Cap*, REIT.COM, <http://www.reit.com/DataAndResearch/US-REIT-Industry-MarketCap.aspx> (last visited Feb. 24, 2014).

<sup>275</sup> It is unavailable as of January 10, 2015.

<sup>276</sup> *New Approaches in Renewable Energy Finance, supra* note 40.

<sup>277</sup> *Id.*

property.”<sup>278</sup> However, “REITs . . . currently await a Treasury Department ‘revenue ruling’ to become widely available for clean energy.”<sup>279</sup>

## VII. CONCLUSION

Crowdfunding is growing in popularity and has already shown tremendous success with funding projects that do not produce a return with interest. While there are some deficiencies with Title III—the Crowdfund Act—Title IV shows great promise of allowing entrepreneurs to tap into the masses for the purposes of crowdfunding investment for renewable energy. Many states require an increasing percentage of their electricity to be generated from renewable energy in an effort to become less dependent on fossil fuels and to reduce their air pollution. As has been discussed, reliance on traditional methods of financing structures and sources are limitations to meeting these demands and have stunted the growth of the renewable energy field. The complexity of tax-equity structures increases the transaction costs of financing that require savvy maneuvering. Smaller returns and the risk of innovation discourage traditional private funding sources, while the shifting political winds that dictate the availability of government-backed sources make public funding unreliable. The need for capital exists, and this need can be easily met by crowdfunding initiatives combined with existing financial sources. Crowdfunding is not the only solution to the problems in renewable energy financing, but crowdfunding alone may be able to fund future renewable energy projects. For the reasons described above, crowdfunding is the emerging solution to the problem of renewable energy financing, and it requires community conscientious entrepreneurs to lead the way.

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<sup>278</sup> Tom Konrad, *Solar REITs: A Better Way to Invest in Solar*, RENEWABLEENERGYWORLD.COM (Oct. 22, 2012), <http://www.renewableenergyworld.com/realnews/article/2012/10/solar-reits-a-better-way-to-invest-in-solar?page=all> (citing a National Renewable Energy Laboratory Report arguing that PV systems achieve the required level of “permanence” and “passiveness required”).

<sup>279</sup> Felix Mormann, Dan Reicher & Mark Muro, *Clean Energy Scores a Success with the Master Limited Partnership Parity Act*, BROOKINGS (Dec. 19, 2013), <http://www.brookings.edu/research/opinions/2013/12/19-clean-energy-mormann-reicher-muro>.