Volume XVII, Issue 2 Spring 2017

Sustainable Development Law & Policy

Exploring How Today's Development Affects Future Generations Around the Globe

In This Issue:

Supply Chain and Private Sector Approaches in Sustainable Development Law and Policy

http://www.wcl.american.edu/org/sustainabledevelopment

American University Washington College of Law

Editor's Note

The *Sustainable Development Law & Policy Brief* strives to confront and analyze legal and political issues entailed in achieving economic and environmentally friendly goals during a period of rapid industrialization. The private sector, while often scrutinized for its role in environmental degradation, has a significant part to play in sustainable development. This participation has been envisioned through market based approaches, such as sustainable supply chains, corporate social responsibility, investment in green technology, and green finance. However, challenges and criticism still remain as the private sector begins to participate in sustainable development initiatives.

This issue features three articles that broadly address how the private sector can both contribute to and hinder sustainable development initiatives. Mr. Luke Trompeter's article, *Green is Good: How Green Bonds Cultivated in Wall Street's Environmental Paradox*, explores the creation and purpose of green bonds and posits that the Securities and Exchange Commission ("SEC"), Environmental Protection Agency ("EPA"), and the Municipal Securities Rulemaking Board ("MSRB") are best suited to provide clear definitions and disclosure laws for green bond projects. This helps ensure the investments using green bonds are actually used for "green" projects as these bonds enter mainstream investment. Ms. Kate Nancy Taylor's article, *Appraising the Role of the IFC and its Independent Accountability Mechanism: Community Experiences in Haiti's Mining Sector*, scrutinizes the role played by the International Financial Corporation ("IFC") during the 2010 Eurasian Minerals Inc. mining investment exploration in Northern Haiti. Ms. Taylor looks to the extent at which the IFC was able to enhance environmental and social outcomes as well as public accountability of the project. Lastly, Lindsay Breslau, Michael Croweak, & Alan Witt's article, *Batteries Included: Incentivizing Energy Storage*, explores how certain U.S. states are incentivizing the access and use of Distributed Energy Storage (DES) technologies, which allow households and businesses to store substantial amounts of electricity on site. This article offers suggestions for improving upon them to better incentivize DES development and clear the way for these important technologies to revolutionize electricity generation and distribution in the twenty-first century.

Feature:

On behalf of the *Sustainable Development Law & Policy Brief*, we would like to thank this issue's authors for their time and effort to make this publication possible. These insights offer a unique approach to complex and increasingly vital issues that we face as global citizens. We would also like to thank our hard working staff members for the time they committed to ensure this publication is of the highest quality. Finally, we would like to thank our readers for their continuing interest and support over the past several years.

Sincerely,

Kimberly Reynolds
Co-Editor in Chief

Ryan Schmidt
Co-Editor in Chief

About SDLP

Sustainable Development Law & Policy (ISSN 1552-3721) is a student-run initiative at American University Washington College of Law published three times each academic year, with occasional special editions and two annual foreign language translations. The journal publishes articles and essays that focus on reconciling the tensions between environmental sustainability, economic development, and human welfare. It embraces an interdisciplinary focus to provide a broad view of current legal, political, and social developments. Our mission is to serve as a valuable resource for practitioners, policy makers, and concerned citizens promoting sustainable development throughout the world.

Sustainable Development Law & Policy prints in accordance with the standards established by the Forest Stewardship Council® ("FSC®") that are designed to eliminate habitat destruction, water pollution, displacement of indigenous peoples, and violence against people and wildlife that often accompanies logging. Achieving FSC Certification requires that every step of the printing process, from lumber gathering to transportation to printing to paper sorting, must comply with the chain of custody established by the FSC which runs a strict auditing system to maintain the integrity of their certification process.

Obtaining FSC certification is one way a publisher can ensure responsible use of forest resources. Our printer, HBP, Inc. is FSC Chain of Custody certified. (FSC® C010897).

To purchase back issues please contact William S. Hein & Co. at hol@wshein.com. To view current and past issues of the publication please visit our website at http://www.wcl.american.edu/org/sdlp. Current and past issues are also available online through HeinOnline, LexisNexis, Westlaw, vLex, and the H.W. Wilson Company. Please note that Volume I and Volume II, Issue 1 are published as *International and Comparative Environmental Law*.

Printed by HBP, Inc., Hagerstown, MD.

Green ~~Greed~~ is Good: How Green Bonds Cultivated into Wall Street's Environmental Paradox

*Luke Trompeter**

Abstract

When the European Investment Bank issued the first green bond in 2007, few imagined this debt instrument would attract mainstream investors. Designed to finance projects ranging from climate change prevention to clean transportation development, green bonds were geared for socially responsible investors concerned with our planet's sustainability. However, by 2015, green bonds were issued by major corporations like Apple and municipalities like New York City at a record $40 billion. Major players on Wall Street have taken notice and look to cash in on the rapidly growing green bond market. With this new influx of investment and the bonds' tax-exempt status, clear standards for what constitutes a "green" project are required to ensure investors' money is actually being used to increase environmental protection and sustainable development.

This Comment discusses how green bonds were first created, their original purposes, and how they grew into a mainstream investment tool. Since the demand for these bonds exploded, there remains very few regulations ensuring these investments will be used for "green" projects. The Securities and Exchange Commission ("SEC"), Environmental Protection Agency ("EPA"), and the Municipal Securities Rulemaking Board ("MSRB") are best suited to provide clear definitions and disclosure laws for green bond projects, giving issuers clarity, and ensuring investors that their funds are being properly used for environmental and sustainable development.

I. Introduction

Al Gore famously stated on the threat of climate change, "[t]he good news is, we have everything we need now to respond to the challenge of global warming . . . But we should not wait, we cannot wait, we must not wait."[1] In the early 2000s, the international community was uncertain on how best to address climate change and ensure the world's increasing development was sustainable.[2] In 2008, the World Bank launched the "Strategic Framework for Development and Climate Change" to jump-start public and private sector action against climate change.[3] Included in these proposals was the issuance of "Green Bonds," an innovative method of encouraging investment in environmental and sustainable development projects across the globe.[4] Green bonds have since grown from a socially responsible investment niche to a major Wall Street debt instrument, reaching $40 billion in issuance in 2015.[5]

Green Bonds are currently being used to finance projects in climate change prevention, biodiversity conservation, pollution reduction, renewable energy advancement, clean transportation development, and clean water projects.[6] Green Bonds are given tax-exempt status to incentivize issuers who then supply investors with AAA credit ratings.[7] Governments at the national, state, and local levels allow these bonds to be issued tax-free because of the positive environmental returns they produce in fighting climate change.[8] Given these tax exemptions, many have concerns that the lack of a clear definition of a "green project" and minimal disclosure laws will allow new players to issue bonds without ensuring their projects have beneficial environmental or sustainable impacts.[9]

This article will begin by focusing on how the European Investment Bank and the World Bank first created green bonds in 2007. It will address how after the International Finance Corporation ("IFC") sold the first $1 billion green bond,[10] the rest of the market took notice, and the industry has grown to $40 billion with new issuers entering the market including municipalities and corporations.[11] Since the demand and supply of these green bonds exploded, there remain very few rules preventing "greenwashing" from saturating the industry and ensuring issuers use the investments for substantive green purposes.[12] In response, the private sector crafted voluntary regulations for issuers known as the Green Bond Principles.[13]

Part III of this article will analyze the liabilities of voluntary prescription in the industry. Due to the lack of a definitive verification process, American municipal bonds are particularly vulnerable to investment in unhelpful green projects.[14] New laws and regulations may turn off some investors hoping to cash in on the tax-exempt investment grade bonds.[15] Both issuers and recipients of the bonds will need to decide whether they care more about making green or being green. Part III of this article will also outline how investors in green bonds can use class action lawsuits to sue issuers who mislead them or greenwash their projects for non-sustainable purposes.

Part IV of this article will recommend definitive solutions for the green bond industry. First, the Securities and Exchange Commission ("SEC") and the Environmental Protection Agency ("EPA"), through cooperative action, should issue a conclusive

* JD/MBA Candidate, American University, Washington College of Law, 2019; B.A. Political Science, B.S. Business Administration, University at Buffalo (SUNY), 2015. I would like to thank Professor Hunter as well as the editors and staff of the *Sustainable Development Law and Policy Brief* for all your help. A special thank you to my parents for always supporting and motivating me.

definition of what a "green project" is. Second, the Municipal Securities Rulemaking Board ("MSRB") should increase its disclosure laws for municipal issuers of green bonds. Third, allowing class action lawsuits by investors whose money is used for greenwashing will establish legal precedent for the misuse of green bonds and ensure that violators are held accountable.

II. The Evolution of Green Bonds from Tree Hugger to Wall Street Mistress

a. What Makes a Bond Green?

A bond is a debt instrument issued to a holder.[16] In other words, a legal IOU or loan, where the holder lends the issuer money with interest.[17] The issuer uses these funds to finance continuing investments that will return profits for both the issuer and the holder.[18] Currently, corporations lead bond issuance with over $7.5 trillion, while municipal bonds account for another $2.9 trillion.[19] Green Bonds, similar to social impact bonds,[20] are "theme bonds," meaning they have a designated goal for the investment.[21] In this case, mitigating climate change or investing in sustainable development.[22]

Currently, there are four major types of green bonds—although others may emerge as the market grows and diversifies.[23] The first, Green Use of Proceeds Bonds, are much like conventional bonds, in which issuers raise capital and repay their investors with interest over time with proceeds from the investment project.[24] The credit ratings for Green Use of Proceeds Bonds are the same for the issuer and the actual bond.[25] The second type of green bonds, Green Use of Proceeds Revenue Bonds, pays its investors back through guaranteed revenue streams such as fees, tolls, or taxes.[26] The third type, Green Project Bonds, finance projects in which the investor has direct exposure to the risk of project and may not have recourse to the issuer.[27] Lastly, Green Securitized Bonds finance projects and use underlying assets as collateral.[28] These assets typically generate the first repayments to bondholders.[29]

Green bonds are being used to finance projects in pollution prevention, clean transportation technologies, renewable energy (solar, wind etc.), clean water, biodiversity conservation, carbon reduction, and sustainable construction that adhere to LEED[30] certification standards.[31] For example, the World Bank has funded solar and hydro power projects in China, geothermal projects in Indonesia, efficient lighting projects in Mexico, sustainable rail transit in Brazil, eco-buses in the Philippines, water purity plants in the Dominican Republic, solid waste development in Morocco, eco-farming in Armenia, agricultural innovation studies in Peru, and climate resilient infrastructure plans[32] across multiple nations.[33]

Green Bonds are particularly attractive to potential investors because they are tax exempt[34] providing fiscal incentives to aid in the fight against climate change or develop renewable energy.[35] Additionally, these bonds have an investment grade which entice not only socially-responsible investors ("SRIs"), but also mainstream investors looking for safe places to put their money.[36] SRIs typically do not invest in regular bonds, preferring instead to select investments they feel will have long-term socially-beneficial impacts.[37] SRIs who invest in green bonds value their environmental benefits, and issuers can diversify their investor pool with SRI funds normally not available to them.[38] The World Bank guaranteed the first green bonds with AAA rating, the highest any investment can receive.[39] This meant potential investors were almost guaranteed their investment would not default.[40] With the entrance of new corporate and municipal issuers, the ratings on some bonds have declined, but none have been issued lower than Standard and Poor's investment grade BBB rating.[41] Currently, the green bond market is oversubscribed, meaning investor demand exceeded that of the shares available.[42]

b. Green Bonds: An Origin Story

The European Investment Bank ("EIB") issued the first green bond in 2007 to fund renewable energy projects across Europe.[43] The World Bank has subsequently taken the lead as the global issuer of Green Bonds by financing climate-related projects across the globe.[44] In 2008, the World Bank published an outline "Strategic Framework for Development and Climate Change"[45] to stimulate public and private sector action in the fight against climate change and to promote the use of renewable energy.[46] Green Bonds emerged as a significant tool for the World Bank to accomplish its goals.[47] By raising funds from investors, the World Bank can lend money for projects that educate and help developing nations combat the consequences of climate change.[48] Since 2008, the World Bank has issued over $9 billion in green bonds in over 120 dealings.[49]

In March 2013, the IFC,[50] issued the first $1 billion green bond, which completely sold out to investors within an hour of issuance.[51] The rest of the bond market, including major players like corporations, central banks, investment banks, and municipalities, noticed this new financial product and the seemingly unlimited demand for it.[52] Months later, the Environmental Defense Fund ("EDF"), Bank of America, and Vasakronan (a Swedish real estate company) issued the first corporate green bond.[53] After the entrance of corporate issuers into the market, both the popularity and availability of green bonds increased.[54] Corporate issuers have exponentially more capital available to them than development banks, and sell their products on major exchanges across the world.[55]

The Commonwealth of Massachusetts issued the first green municipal bond in June 2013.[56] The bond was issued at $100 million, and the state received over $130 million in offers from 183 investors.[57] Recognizing the success of Massachusetts' green bonds, the New York City Comptroller proposed a plan to issue $30 billion in green bonds by 2018, making it the first city in the country to offer bonds that specifically finance environmental projects.[58] The New York City Comptroller's office, in conjunction with the Office of Management and Budget, was charged with establishing the criteria for what constitutes a green project using previous issuers like the World Bank and IFC as models.[59] The Comptroller's Office sought feedback from investors on how best to establish a high quality green bond program in an effort to be transparent and to highlight New York City's dedication to sustainability.[60]

Once corporate issuers like Vasakronan, and municipal issuers like New York City, entered the green bond market, billions flowed in, and the number of issuers dramatically increased.[61]

c. A Private Sector Response: The Green Bond Principles

In the early stages of the green bond market, issuers like the IFC and the World Bank were trusted to only finance projects that were in accordance with the World Bank's rigorous environmental and social safeguard policies.[62] However, as more corporate and municipal issuers enter the market, legal regulations will play an important role in ensuring the bonds are actually used to address environmental challenges.[63]

There are two main concerns those in the green bond industry have going forward which include the lack of consensus regarding what constitutes a green-bond-eligible project and weak transparency and reporting requirements.[64] The industry is currently at a crossroads; it must establish definitions for what a "green project" is, and require issuers to disclose and verify the use of their tax-exempt bonds, or allow projects to be diluted by greenwashing.[65]

When companies[66] or government organizations promote environmental initiatives, but actually operate in a non-environmentally responsible way, it is labeled greenwashing.[67] For example, energy companies greenwash when they tout green energy technology even though compared to fossil fuels, it represents only a small proportion of their overall business revenue.[68] In the green bond context, issuers may advertise their projects as green to entice investors and reap tax benefits, but actually use the funds for environmentally detrimental projects.[69] For example, clean coal projects, which have become the poster child for greenwashing, advertise themselves as 70% cleaner than traditional coal, but scientists have maintained this has no reduction on climate-change-causing carbon emissions.[70] Additionally, under current disclosure requirements, bond investors may not be aware that the project they helped finance has been greenwashed until after its completion.[71] For instance, a hydroelectric dam may produce more greenhouse gases than it reduces and may yield other conservation concerns.[72]

The International Capital Market Association ("ICMA") established the Green Bond Principles ("GBP") in 2014 as a private sector solution to green bond disclosure and verification.[73] The GBP have four core components: Use of Proceeds; Process for Project Evaluation and Selection; Management of Proceeds; and Reporting.[74] The GBP recognizes nine broad categories that are eligible for green bond issuance:[75] 1) renewable energy including production, transmission, and products; 2) energy efficiency and energy storage in new and refurbished buildings and smart grids; 3) pollution prevention greenhouse gas control and soil remediation; 4) sustainable management of living natural resources including sustainable agriculture and fisheries; 5) terrestrial biodiversity conservation including the protection of coastal and watershed environments; 6) clean transportation such as electric or hybrid public rail; 7) sustainable water management including clean drinking water and sustainable urban drainage systems; 8) climate change adaptation including climate observation and early warning systems; and 9) eco-efficient processes such as eco-labeling and resource efficient packaging and distribution.[76]

Currently, many issuers in the industry subscribe to the voluntary GBP.[77] While the GBP are beneficial for recommending the use of proceeds, providing environmental assessments, and reporting stipulations for projects, further requirements are needed before they can be considered comprehensive guidelines for green bonds.[78]

III. Being Green while Making Green: Analyzing the Regulatory Climate of Green Bonds

a. Examining Voluntary Prescription of Green Bond Guidelines

The green bond market has grown exponentially in the last few years, but the deficiency of regulation in the industry could hinder the bonds' ability to generate substantial environmental progress.[79] While many issuers currently subscribe to the voluntary GBP established by the ICMA,[80] there are problems with enforcing these voluntary principles. Some of the problems include the lack of accountability and enforcement mechanisms coupled with minimal disclosure requirements and the absence of penalties for violators.[81]

The ICMA believes the use of proceeds, project evaluation, management of proceeds, and reporting requirements established by the GBP promote transparency and disclosure for investors and banks.[82] While these principles can be helpful, they remain voluntary.[83] Further, the ICMA is a trade association and represents issuers and asset managers that subscribe to a self-regulating market system.[84] With the exponential increase in green bond issuance and the entrance of municipal and corporate entities into the market, the voluntary system is not enough.[85] Unified government regulations are needed for clear definitions of "green" and to prevent a flood of greenwashing projects.[86]

The GBP purposely do not take a stand on which green projects or technologies will produce the greatest environmental or sustainable benefits.[87] This is problematic as issuers can receive the same tax benefits without guaranteeing substantial results.[88] While difficult, it is possible to calculate the anticipated results or environmental externalities of potential green bond projects.[89]

The GBP also recommend the use of an external reviewer to verify the sustainable features of a potential project.[90] Again, this verification is voluntary, and the GBP note that external party reporting adds costs that do not occur with regular bonds and could potentially limit investor funds.[91] Additionally, issuers who do choose to use an external review may do so from "second-party opinions," which can sometimes be from the same organization that issued the bond while still claiming it as an independent opinion.[92] Even true, third-party reviewers like Moody's[93] may have a conflict of interest with issuers if they are paid based on the quality of the assessment they provide.[94] Moody's and other major credit rating agencies were accosted for their role in the 2008 financial crisis.[95] This included the use of an "issuer pay" model, where the issuer pays the agency for

each rating, which may influence the agency to give out higher ratings or risk losing business to competitors.[96] The same problems could persist with verification of green bonds if issuers voluntarily choose their external reviewer.[97]

The Climate Bond Initiative ("CBI") recognized the problems of the "broad integrity principles" set forth in the GBP.[98] In developing the Climate Bonds Standard & Certification Scheme, the CBI established mandatory requirements for tracking and reporting as well as an assurance framework with independent verifiers.[99] Complying with the Climate Bond Standard enables a bond to be certified, allowing investors to be more certain their funds will be used to produce environmental or sustainable benefits.[100]

While the Climate Bond Standard is an improvement for the green bonds market, it still has several shortcomings. The requirements within the Climate Bond Standard are mandatory, but subscribing to the Climate Bond Standard remains voluntary.[101] Given the additional costs of verifying, many issuers will avoid this process and still enjoy the tax benefits.[102]

Like the GBP, the Climate Bond Standard does not provide a clear definition of what is considered a "green" project or technology.[103] The Climate Bond Standard provides broad categories of commonly invested ventures, but in aligning itself with the requirements of GBP, the Climate Bond Standard purposely does not take a position on which eligible green projects would produce the optimal environmental results.[104] Common examples of this dilemma include nuclear power, which is considered green as a renewable resource but a hazard in a conservation effort.[105] Another concern is the funding of "clean coal" projects, which remains banned under the Climate Bond Standard but may be allowed under less restrictive guidelines.[106] Financing water projects has also become a source of disagreement in the green bond industry.[107] While there is undoubtedly a need for funding of water infrastructure projects, expensive water treatment and desalination processes may force cities to use massive amounts of carbon-based energy.[108] Therefore, many in the industry argue that water infrastructure projects should not be eligible for green bonds.[109] The CBI released the Water Climate Bonds Standard in 2015 to address this dilemma and help investors evaluate water-related projects and their anticipated environmental impact.[110] Issuers have since adapted the Water Climate Bonds Standards, but due to its novelty, the effectiveness of the standards at curbing environmental and sustainability concerns has yet to be seen.[111]

Providing tax incentives for projects that are greenwashed and fail to produce the projected environmental results is the strongest argument for establishing a government mandated "green" definition as issuers are reaping the benefits without contributing to the public good.[112] Relying on voluntary market principles might help issuers increase the number of bonds through lower issuance costs, but this will ultimately be detrimental for the intended environmental cause.[113] Once the market loses credibility through greenwashing, it may never recover.[114]

A conclusive definition of "green" by the government would allow issuers to better demonstrate that their project is focused on credible environmental change while assuring investors that their funds are being used properly.[115] The U.S. Food and Drug Administration ("FDA"), in conjunction with the U.S. Department of Agriculture ("USDA"), underwent a similar process when deciding upon a definition for "organic" food labeling.[116] To draft this definition, the USDA used studies of organic production and requested comments from industry participants including farmers and producers to evaluate criteria.[117] This enabled the USDA to create a definition that could be regulated, complied with, and would not unreasonably increase costs of organic production.[118] To be considered "organic" the food must meet several requirements including production without genetic engineering or ionizing radiation, production per the National List of Allowed and Prohibited Substances, and certification by the authorized USDA National Organic Program.[119] While you can label particular ingredients as organic on the side information panel without this certification, it is illegal to label organic on the primary display section or use the USDA organic seal anywhere on the package without it.[120]

Similarly, the government could provide a clear definition of "green projects," specify requirements to satisfy this definition, and develop a certification process that would signal to the public the bond's green authenticity.[121] As the primary securities regulator in the country, the SEC[122] is best positioned to work in conjunction with the EPA, who already has precedent for creating definitions of green infrastructure.[123] The SEC and EPA could request comments from respectable green bond issuers including the World Bank to ensure their definition would be effective, cost efficient, and reasonable to comply with. However, a major concern for the industry is ensuring regulatory costs do not dry up the market.[124]

B. Green Metropolis: Muni Bonds as Tools for Sustainable Change

Municipal bonds are often seen as trusted financial investments and the best solution to America's growing infrastructure problem.[125] Green municipal bonds attempt to combine the reliability of the municipal market with the extrinsic benefits of environmental and sustainable development.[126] However, municipal bonds are particularly ripe for greenwashing and confusion over the designation of green projects.[127]

While two-thirds of global green bonds received third-party verification, only two US issued municipal bonds received any external review, making many doubt their green credibility.[128] This has led to concerns that the bonds designated green are failing to accomplish their desired results while still retaining the tax benefits.[129] In 2015, Julien Bras, a SRI portfolio manager at Allianz stated:

> Without some form of market or regulatory intervention, the risk is that the market is going to end up being a mixed bag, and then it will never recover its credibility . . . it's the easiest way to greenwash—all you have to do is come up with a couple of environmental projects, green-stamp them, and pocket the funds allocated for those projects. It doesn't cost much more [than a conventional bond]. . . . The need for [standardization]

on this market is self-evident and urgent—we need a definition of what is green.[130]

The private sector has continued to develop solutions to this issue, but the government has yet to intervene. In August 2016, Moody's issued its first Green Bond Assessment ("GBA") for an American municipal bond.[131] GBA scores range from GB1 (excellent) to GB5 (poor) based on the organizational structure put in place to manage the bond, the use of proceeds, the expected disclosure on the use of proceeds, the expected management of proceeds, and the ongoing reporting and disclosure.[132] A GBA is not a credit rating but rather an opinion on the relative effectiveness of the issuer's environmental or sustainable project.[133] In offering these assessments, Moody's is adding to the competitiveness of the green bond market by enlightening investors about which bonds will have the greatest environmental impact.[134]

While the GBA is a positive step towards validating green bonds, the same issues arise as the GBP.[135] First, the assessment is currently only available to those that request it, meaning issuers can still avoid the verification process.[136] Additionally, the first municipal bond assessed by Moody's was for a water project.[137] Sustainable water investments can be considered green under the GBP, but others in the industry, including many SRIs, feel they should not be eligible for green bonds.[138] Recent municipal green bonds issued to finance water projects follow health and safety standards of the Clean Water Act and Safe Drinking Water Act.[139] However, without a clear green definition, they may fail to consider all the necessary environmental aspects, such as energy consumption needed to deliver and treat the clean water.[140] The debate over water projects highlights the lack of consistency across the market as to what should qualify as a green project and why government action is still necessary in the green bond market.[141]

The Municipal Securities Rulemaking Board ("MSRB") has a history writing investor protection rules regarding municipal bonds and ensuring the funds are used in a fair manner.[142] The MSRB is a self-regulatory organization, financed by member dues, and its rules are enforced by the Financial Industry Regulatory Authority ("FINRA")[143] and the SEC.[144] The Dodd-Frank Act of 2010 broadened the MSRB's oversight ability, and mandates how municipal issuers disclose information to its transparency system.[145] The MSRB currently requires issuers to disclose an official statement including the underwriting spread, the amount of any fee received by the dealer, and the initial offering price for each maturity in the offering whenever there is a new primary offering of a municipal bond.[146] Additionally, issuers must continually disclose information about the municipal bonds throughout its maturity.[147] Mandatory disclosure rules for municipal green bond issuers would ensure they are complying with green project definitions, and continue to monitor and adhere to the green requirements throughout the project's completion.

c. The Investor Strikes Back: Class Action Lawsuits Against Green Bond Issuers

As in other cases of bond issuer fraud, if a green bond issuer provides misleading information that investors consider detrimental to their investment, legal action should be an available resolution tactic for them to recover. However, without widely accepted definitions and standards for green bonds, "it is difficult to judge whether there has been an extreme departure from a reasonable standard of care."[148]

Although they are a fundamental starting point for a best practices standard,[149] neither the Climate Bond Standard nor the GBP offer solutions for investors who were wronged by their issuers.[150] Legal action against issuers can help wronged investors recover damages and act as a deterrence method against future issuers who greenwash their project or mislead investors. Class action lawsuits against bond issuers are an established and effective legal practice that can be dually applied to green bonds and the greenwashing problem.[151]

If courts find that issuers of bonds deceived their investors during the primary offering, or throughout the bond's maturity, they will allow individual investors to consolidate their complaints into one class action lawsuit.[152] For example, in *Zhu v. UCBH Holdings, Inc.*, investors alleged that the corporation issued materially false and misleading statements concerning UCBH's business condition and hid accumulating loan losses from them.[153] The investors alleged the issuers made these misleading statements to generate a scheme to defraud them.[154] One investor filed a complaint for a securities class action on behalf of "all purchasers of publicly traded UCBH securities."[155] The Court ruled that it would allow the complaints from different investors to be conjoined into a class action lawsuit against the issuer.[156]

Similarly, if investors of green bonds feel the issuer made false or misleading statements about the environmental impact of the investment, they should be allowed to consolidate their claims against the issuer into a class action suit.[157] Allowing investors to do so levels the playing field between individuals and multi-million dollar entities like corporations of municipalities.[158] Members of a class action suit can combine resources, legal services, and any evidence they may hold against the defendant.[159] Without class action suits, investors may not have the financial incentive to fight against large green bond issuers like Apple.[160] Additionally, issuers have incentive to continue their deceptive behavior if they are not confronted by bondholder litigation.[161] However, due to its complexities, class action litigation is a lengthy process.[162] Bondholders looking for a quick reimbursement of their funds may be better served resolving their cases individually.

Once a class action suit is formed, courts have ruled that issuers who fail to follow their publicly stated plans for an investment can be petitioned to pay damages to their investors.[163] For example, bondholders in *In re Oppenheimer Rochester Funds* sued an issuer for failure to adhere to the Fund's stated investment objective and over-concentration of the Fund's assets in non-investment grade (or "junk") bonds.[164] The investors alleged the fund managers promoted the investment as high yield with

tax-free interest income from municipal bond portfolios, which would be carefully assessed and monitored.[165] In reality, the fund was heavily concentrated with junk bonds, a much riskier and volatile investment.[166] Using evidence from testimonies, offering documents, and board meeting minutes, the plaintiffs established that they did not know, and through the use of reasonable care could not have known, that the defendant's statements were false or misleading.[167] Given the similar arguments and evidence of all the plaintiffs, the court ruled that no other avenue of resolution would be applicable and allowed the case to continue as a class action.[168] The case settled out of court but proved significant for bondholders who are misled by issuers.[169] Investors in green bonds can use this precedent against issuers who fail to adhere to their original green investment objectives or switch their project plans throughout a bond's maturity.[170]

Contrarily, there are cases of precedence for issuers winning or dismissing class action lawsuits by investors. Without a clear definition of "green projects," the bar for investors to prove issuers mislead and deviate from their original green objectives is high.[171] Bondholders in *Abell v. Potomac Ins. Co.* sued an issuer and underwriter for misleading statements about the project they invested in.[172] Although the bondholders won the suit and were able to prove the defendant's statements were materially false, the class action damages were reversed, and the bondholders were not compensated because they failed to prove that they had relied on these statements to make their investment decisions.[173] The Court ruled that the plaintiff's reliance on a securities fraud action is subjective and requires each individual investor to prove that she based her decision on the defendant's misstatements or omissions.[174] Determination of materiality, on the other hand, requires the plaintiffs to demonstrate how a reasonable investor would have used the defendant's statements—a much easier burden.[175] The decision in *Abell v. Potomac Ins. Co.* highlights the risk investors face when choosing to take action against an issuer.[176]

The burden for investors is high, but establishing legal precedent for green bondholders against issuers who mislead them or greenwash their projects will bring transparency and ensure integrity remains in the market. Settlements mandated by securities class actions are publicly posted to aid other investors who may bring future suits.[177] As precedent, when environmental class action lawsuits were publicized, corporations were forced to change their pollution habits and compensate affected class members.[178] If green bond investors can succeed in future landslide cases, issuers will change their practices for fear of financial repercussions and public shame.[179]

IV. Solutions for Green Solutions: Progressing Regulation and Legal Action in the Green Bond Market

A. Fifty Shades of Green: Developing Consistent Green Definitions

While the guidelines of the GBP, the Climate Bond Standard, and Moody's GBA are helpful, there remains little consistency in the green bond verification process.[180] Different standards allow for different definitions of green projects—leading to different "shades" or effectiveness of green projects.[181] This blurring of what constitutes "green" opens the door for issuers to greenwash projects while benefiting financially from their tax-exempt status.[182] Issuers looking to cash in will saturate the market with greenwashed projects, SRIs will stop investing in projects they feel are not impactful, and the market will dry up.[183] If the green bond market is to remain robust and effective in its environmental and sustainability efforts, a consistent definition of "green" is required.[184]

The SEC, which regulates the securities industry, including the bond market, is best equipped to enforce definitions of what constitutes a green project against issuers in the market.[185] In defining what is considered "organic," the FDA worked conjunctively with the USDA.[186] Together, the two government agencies were able to agree upon a definition, requirements to meet that definition, and how best to enforce it.[187] Similarly, the SEC should work with the EPA, who is more knowledgeable in environmental issues and sustainable development.

Balancing the "green" interests of renewable resources versus conservation efforts will be difficult, but it is an important step in ensuring green bonds achieve their original purpose. The EPA will likely decide what qualifies, as it has a regulatory history defining green infrastructure, as a similar "cost-effective, resilient approach to managing . . . impacts that provides many community benefits."[188] The EPA published handbooks for local governments to grow green infrastructure,[189] and therefore can publish similar literature for issuers and investors when defining green bonds.

The EPA and SEC should request comments from issuers who have a history defining and verifying green bonds to discuss effective methods.[190] This will ensure the definition would be both controlled and cost efficient.[191] Additionally, the SEC will enforce this definition using its authority in the securities market to not allow issuers to label their bonds "green" unless they satisfy the EPA definition.[192] Issuers that meet this definition will be eligible for the certification and can advertise their bonds as EPA/SEC approved "green" bonds.[193]

Requirements should be included in order to meet the definition and qualify for the certification. This definition can model the GBP,[194] but it should also weigh the environmental impacts of one project classification versus another. Eligible categories will be chosen based on main areas of environment and sustainability concerns that require financing.[195]

To date, typical green bond projects contain one eligible category. Future projects however could include a combination of these outlined categories to boost their sustainable impact. Eligible green projects under this joint definition should include renewable energy such as wind, solar, and hydro plants that meet federal water standards and additional environmental requirements described in the Water Climate Bonds Standard.[196] However, given the debatable impact of nuclear, coal, or "fuel efficient" technologies that still require the use of carbon-based fuels should not be eligible.[197] Pollution prevention projects including greenhouse gas control should be eligible. However,

water pollution projects should be restricted unless the project plan has specific outlines for determining if energy consumption will be less than energy savings.[198] Additionally, sustainable farming and fishing projects, including biological drop protection and drip irrigation systems, should be eligible under the joint definition if they can prove their sustainable management and conservation impacts.[199] Moreover, conservation efforts on land and sea should also be eligible including protection of marine or watershed environments.[200] Eligible green bonds should include electric and non-motorized public transportation as well as clean energy passenger vehicles.[201] All projects that include construction of residential or commercial buildings would also be required to follow to LEED[202] green building certification standards.[203] While this definition should not be deemed exhaustive as to include future emerging categories, it will give investors and issuers a definitive answer as to what qualifies as a "green project."

Issuers and investors would also benefit from a certification process that allows green bonds that meet the definition to be advertised as such.[204] In addition to its "organic" definition, the USDA National Organic Program labels certified organic products and outlaws mislabeling them without the certification.[205] Likewise, the SEC can provide a certification process similar to Moody's GBA[206] for eligible green bond projects that meet the definition and requirements. The certification process should consider the organizational structure managing the bond, the use of investor proceeds, the issuer's level of disclosure on the use of proceeds, management of said proceeds, and the ongoing disclosure of information throughout the bond's maturity.[207] This will allow investors to be sure their funds are being used properly and will differentiate issuers who want to advertise their environmental efforts versus those who just wish to reap financial benefits.

While the definition and certification process may take some time to develop, its implementation will alleviate confusion by investors, protect issuers with prosperous green plans from negative press of "being green in name only," and ensure the continuation of a healthy green bond market.[208]

b. Showing Your Hand: Increasing Disclosure Laws in the U.S. Municipal Bond Market

American municipal bonds are particularly vulnerable to greenwashed projects as currently very few use verification processes.[209] The MSRB currently drafts consumer protection and disclosure laws specifically for the municipal bond industry.[210] A definition for green projects is helpful for investors at the onset to decide which bond to invest in, but investors also need publicly-disclosed information throughout the bond's maturity to ensure it ends with beneficial environmental or sustainable results.[211] The disclosure of information will also help prevent investors from misunderstanding what they have invested in and will lower the chance they bring a lawsuit against the issuer.[212]

The MSRB should require municipal issuers to disclose their green plans, including the use of proceeds, the process for evaluating and selecting the project, the sustainable impact, and the management of proceeds at the primary offering of the bond and continually throughout the bond's maturation period.[213] The disclosure of information can be of a similar framework to the GBP and the MSRB's current disclosure filings.[214] Distinctively, municipal bonds may have several maturity dates, paying off investors at different times, and making up-to-date disclosure to the MSRB essential for investors to track the bond's environmental progress.[215] However, these rules will have the same problems as the voluntary GBP unless they are written into law and enforced by the SEC.[216] The use of proceeds will follow the definition established by the SEC and EPA aiming to address climate change, renewable resources, or conservation.[217]

The process for project evaluation will include transparency determinations and a profile of the sustainability of the project.[218] Management of proceeds would be disclosed to the public through the MSRB's Electronic Municipal Market Access system ("EMMA")[219] so that investors can check on the progress and environmental proficiency of their investment. Additionally, the disclosure laws should require up-to-date reporting of the project's progress and the use of proceeds until the bond has matured.[220]

As is the case with the GBP, verification and extensive reporting adds costs that do not occur with regular bonds.[221] There is concern that too much regulation will turn away new investors and issuers, and stifle the growth of the market.[222] However, combined with a consistent and appropriate definition, disclosure laws will ensure investors are making educated decisions and prevent issuers from greenwashing their projects.[223] Striking a manageable balance means aligning the objectives of investors, issuers, and regulators.[224] The market as a whole will need to decide if environmental integrity is worth more than the costs generated by the additional disclosure and verification regulations.[225]

c. Power to the Holder: Legal Accountability for Green Bondholders

In addition to a revamped definition of green bond eligible projects and increased disclosure requirements for issuers, bondholders still require a platform to recover their investments if they are misled about the project or are subjected to greenwashing. Allowing investors to conjoin their complaints into one class action lawsuit and litigate a claim against bond issuers together will lower cost of legal services for bondholders who are fighting deep-pocketed issuers.[226] Few investors would carry out individual claims as they have little financial incentive to do so against a corporate or municipal issuer.[227]

Class action lawsuits can also be used as a deterrence method, which would establish precedent against future violators.[228] Once multiple class actions are successful against green bond issuers, future issuers would have no choice but to change their practices or face public scrutiny and financial repercussions.[229] Additionally, class action lawsuits aid in preventing inconsistent rulings across jurisdictions resulting from multiple individual cases.[230] Combined with a green definition and disclosure laws, class action precedent would help in establishing consistent green bond regulation.

Once investor complaints are combined, they must be able to argue and prove that they were misled or defrauded by the issuer. As in *In re Oppenheimer Rochester Funds*, where the bondholders sued the issuers for failure to adhere to the stated investment objective,[231] green bondholders should be able to bring suits against issuers who renege, mislead, or greenwash their initial green objectives.

Allowing these class action lawsuits may deter future issuers from greenwashing their projects misleading their investors.[232] Settlements not only reimburse the investors but also force businesses to change their practices though punitive damages and negative publicity.[233] Since green bonds are relatively novel, this precedent will be beneficial in enforcing future environmental and sustainability regulations against corporations or municipalities outside the bond context.[234] While the burden on bondholders remains high, as seen in *Abell v. Potomac Ins. Co.*,[235] it is important for investors to have legal actions against issuers. A consistent definition and disclosure requirements will help establish good practices for issuers, making it easier for investors to prove they actually relied on the issuers' false statement.[236] Class action lawsuits are a proven legal practice against bond issuers,[237] and green bond investor lawsuits should operate no differently.

V. Conclusion

When the European Investment Bank issued the first green bond in 2007 to spark private and public sector action in the fight against climate change,[238] few anticipated it would grow to the market size it is today. Green Bonds are an exponentially-growing financial market issued at over $40 billion in 2015[239] with 2016 forecasts predicting $100 billion worldwide.[240]

With the rise of this industry, regulations are needed to ensure its effectiveness in enhancing sustainable development.[241] The SEC, in conjunction with the EPA, should establish a definition and certification process determining what is eligible for green bond investment. The MSRB should also require the disclosure of data from municipal bond issuers to ensure they fulfill their sustainability promises. Finally, allowing green bondholders to file class action lawsuits against issuers who mislead or subject them to greenwashing will establish precedent and deter future issuers from acting similarly.

As former Treasury Secretary Hank Paulson Jr. puts it, "[w]e have the ideas, the models and the capital to make it [a sustainable economy] happen. What's needed now is leadership from global policy makers to prioritize the development of a global green finance system."[242]

Endnotes

1 Al Gore, Former Vice President, United States, Speech at *Sierra Club's National Environmental Convention and Expo in San Francisco* (Sept. 9, 2005) (transcript available at http://www.alternet.org/story/25349/a_moral_moment).

2 *See Development and Climate Change: a Strategic Framework for the World Bank Group*, WBG at 1 (June 28, 2012), http://documents.worldbank.org/curated/en/732681468150874549/pdf/688160REVISION0se0Only090Box370053B.pdf [hereinafter *Strategic Framework*] (acknowledging the uncertainty about climate change policy in 2008).

3 *See What are Green Bonds?,* The World Bank Treasury, http://treasury.worldbank.org/cmd/htm/WorldBankGreenBonds.html (last visited Mar. 4, 2017) [hereinafter *What are Green Bonds*].

4 *See id*.

5 *See* Tom Zanki, *Green Bonds Soar Despite Uncertain Legal Environment*, Law360 (Apr. 28, 2016, 6:38 PM), https://www.law360.com/articles/789719/green-bonds-soar-despite-uncertain-legal-environment.

6 *See Green Projects from Around the World,* The World Bank Treasury, http://treasury.worldbank.org/cmd/htm/MoreGreenProjects.html (last visited Mar. 5, 2017) [hereinafter *Green Projects*] (detailing the types of projects funded by green bonds).

7 *What are Green Bonds*, *supra* note 3.

8 *See* Tom Zanki*, NYC Comptroller Pitches Green Bond Program,* Law360 (Sept. 24, 2014, 8:47 PM), http://www.law360.com/articles/580568/nyc-comptroller-pitches-green-bond-program (describing municipalities' eagerness to increase green bond issuance).

9 *See* Namrita Kapur, *With Green Bonds, Legitimacy Comes to Those Who Verify*, Envtl. Def. Fund (Mar. 30, 2016, 1:51 PM), http://business.edf.org/blog/2016/03/30/with-green-bonds-legitimacy-comes-to-those-who-verify/?_ga=1.60087789.1398288046.1470010915 (echoing concerns across the industry about lack of standards).

10 *See How to Issue a Green City Bond*, Climate Bond Initiative 2 (2015), https://www.climatebonds.net/files/files/GCB%204%20pager%20final%20edits%20vc-02_300Copies_170gsm_Bleed%20(1).pdf.

11 *See* Zanki, *supra* note 5.

12 *See id.*

13 *See* Int'l Cap. Mkts. Ass'n, Green Bond Principles 1-6 (2016), http://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/green-bonds/.

14 *See* Kapur, *supra* note 9.

15 *See id.*

16 *See* Dave Kansas, *What Is a Bond?*, Wall St. J. (2005), http://guides.wsj.com/personal-finance/investing/what-is-a-bond/.

17 *See id.* (breaking down the definition of a bond into layman's terms).

18 *See id.* (explaining how bondholders are repaid for their investments).

19 *See* SIFMA, *The Role of Bonds in America*, Investing In Bonds, http://www.investinginbonds.com/learnmore.asp?catid=3&id=50 (last visited Mar. 5, 2017).

20 *See What is a Social Impact Bond?,* Goldman Sachs, http://www.goldmansachs.com/our-thinking/pages/social-impact-bonds.html (last visited Mar. 5, 2017) (defining social impact bonds as creative and novel financial tools that use private investment to support high-impact social programs such as, addressing incarceration rates or low academic performance).

21 *See Understanding Climate Bonds*, Climate Bond Initiative, https://www.climatebonds.net/resources/understanding (last visited Mar. 5, 2017).

22 *See Climate Bond Standard*, Climate Bond Initiative 3 (Dec. 6, 2016), https://www.climatebonds.net/files/files/Climate%20Bonds%20Standard%20v2_1%20-%20January_2017.pdf [hereinafter *Climate Bond Standard*] (spelling out the purpose for green bonds).

23 *See* Int'l Cap. Mkts. Ass'n, *supra* note 13, at 7.

24 *See Green Bonds*, UNDP, http://www.undp.org/content/sdfinance/en/home/solutions/green-bonds.html (last visited Mar. 3, 2017).

25 *See id*.

26 *See id.*; *see also* Press Release, Iowa Fin. Auth., Iowa Finance Authority to Issue Approximately $323,460,000 in Iowa Finance Authority State Revolving Fund (SRF) Revenue Bonds (Green Bonds) (Jan. 28, 2015) http://www.iowasrf.com/file.cfm/media/news/Bonds1_C7EA6E42C838F.pdf (announcing $332.46 million in green revenue bonds to be paid back to the State through water related taxes and fees).

27 *See* UNDP, *supra* note 24; *see also OPIC Issues First Green Guaranties Supporting Climate-Friendly Investments*, OPIC, https://www.opic.gov/press-releases/2014/opic-issues-first-green-guaranties-supporting-climate-friendly-investments (last visited Mar. 5, 2017).

28 *See* UNDP, *supra* note 24.

continued on page 40

Appraising the Role of the IFC and Its Independent Accountability Mechanism: Community Experiences in Haiti's Mining Sector

*Kate Nancy Taylor**

I. Introduction

In 2010, the International Finance Corporation (IFC) purchased an equity stake in Eurasian Minerals Inc., a junior mining company conducting gold and copper exploration activities in Northern Haiti. The investment formed part of the IFC's Early Equity portfolio, which supports private sector investment in nascent mineral markets. This article examines the governance role played by the IFC over the course of the company's exploration activities in 2010 through 2012, after which a de facto moratorium emerged over gold mining operations in Haiti. This article sets out to scrutinize the role played by the IFC during the life of its investment in Haiti, querying the extent to which it was able to enhance the environmental and social outcomes and foster greater public accountability of the project—paying particular attention to the nature of IFC investments in the earliest phases of mining operations and highlighting the importance of obligations regarding community engagement and information disclosure to project-affected communities.

The cornerstone of the IFC's accountability framework is the Compliance Advisor Ombudsman (CAO), which operates as the institution's independent accountability mechanism (IAM). Over the last twenty years, IAMs have emerged as a staple feature of international finance institutions, during a time in which the idea of citizen-led accountability has gained currency in multilateral development finance. Despite the primacy of this idea, this article argues that the CAO was not an accessible or appropriate mode of redress for project-affected communities in Haiti. Drawing on the Haiti case study, this article focuses on how different stages of community mobilization against mining projects can shape and constrain the capacity of the CAO to enhance citizen-led accountability. Given the IFC's recently stated preference for early equity investments in the mining sector, this analysis is necessary to develop a more nuanced understanding of how recourse to the CAO functions for project-affected communities during the earliest phases of a mine's life cycle.

Part II of this article sets out the governance architecture of an IFC-sponsored project, drawing out the applicable norms and standards that apply to such projects and highlighting the role and functions of the CAO in particular. Part III goes on to examine the nature of the IFC's early equity investment in Haiti, and conducts a brief analysis of how Eurasian's conduct over the course of its exploration activities failed to meet the IFC's Performance Standards with respect to community engagement and the company's administration of land access agreements in La Montagne, in Haiti's Northwest Department. With these deficiencies in mind, Part IV examines why project-affected communities did not have recourse to the CAO to address the company's failures. Part V concludes that the CAO needs better solutions for engaging vulnerable project-affected communities.

II. Role and Functions of the IFC and CAO

(a) Early Equity Investments in the Mining Sector

The IFC is the world's largest multilateral institution supporting private sector investment, with investments and advisory services in over 100 developing countries.[1] Given the governance role played by the institution, its potential to redefine accountability relationships and institutionalize environmental and social safeguards in the mining sector could be critical for the people and communities affected by IFC-sponsored projects.[2] While the IFC's largest investments are related to infrastructure, agribusiness, and forestry industries, it has shown an increasing preference for investments in oil, gas, and mining industries in recent years—with investments in the sector rising from approximately $229 million USD in 2011 to $514 million USD in 2015.[3] Under the IFC's "Early Equity Program," the IFC intentionally supports nascent mineral markets by targeting projects at the earliest stages of mining activity.[4]

Through its Early Equity Program, the IFC "looks to partner with junior mining companies with good management and help them address environmental and social issues maybe four or five years before they begin developing mines."[5] The program allows the IFC to balance what appears to be two of its key imperatives—first, its commitment to natural resource extraction as an important feature of economic development in the world's poorest countries, and second, its fidelity to projects that maintain

* B.A., L.L.B. (Hon.), L.L.M. (International Legal Studies). The author has previously worked as an advocate on human rights in Haiti's mining sector as part of the Global Justice Clinic at New York University's School of Law. While the author's observations during the course of that fieldwork have enriched her understanding of the situation analyzed in this paper, the analysis itself is not based on privileged and confidential information, but is instead based on later research using publicly available information. Both the fieldwork and the preparation of this paper were conducted under the supervision of Professor Margaret Satterthwaite, NYU School of Law.

sound environmental and social practices. By investing in the mining sector at the early stages, the IFC tries to limit its exposure to the more complex and invasive environmental and social harms associated with a mine's development and production while maintaining its fundamental support for the industry. With respect to the IFC's investment in Eurasian's operations in Haiti, for example, the IFC noted that its investment in the exploration stage of Eurasian's projects would only yield "limited" development impacts for Haiti, other than generating local employment and the purported "positive impact of attracting additional foreign investments to an underdeveloped but promising sector" of the economy.[6]

Notwithstanding the purported "light footprint" left by mineral exploration, the IFC's Sustainability Framework applies equally to the IFC's early equity investments in the mining sector.[7] The Sustainability Framework consists of the IFCs' Policy on Environmental and Social Sustainability (which defines the nature of the IFC's commitments), the Environmental and Social Performance Standards (which define clients' responsibilities for managing their risks), the Access to Information Policy (which sets the parameters for the IFC's information disclosure), and the procedures for Environmental and Social Categorization (which the IFC uses to categorize the risks of a project).[8] Taken together, these elements are intended to have far-reaching consequences for the governance of a project, both internally and externally. The Framework plays important internal governance functions, by governing how the IFC itself should conduct its due diligence and ensuring the transparency of its involvement. Externally, the Framework (primarily through the Performance Standards) seeks to regulate and influence the behavior of the company that has accepted the IFC's funding through debt or equity.[9] To the extent that the Sustainability Framework fulfills this external governance function, the IFC's Early Equity Program could have beneficial effects for project-affected communities that endure into the later phases of a mine's development. In theory, institutionalizing strong environmental and social practices in the earliest stages of the life cycle of a mine is prudent, as implementing best practice from the outset could help to alleviate the more acute environmental and social issues that are likely to arise as the mine matures. Therefore, even in the early life of projects, the IFC's Sustainability Framework could play an important role in governing how environmental and social risks of a project are managed, and redefining the accountability relationships that exist between the IFC, the company, and project-affected communities. For that role to be fully realized, both the IFC and its clients must strictly adhere to the IFC's Sustainability Framework, and there must be appropriate modes of citizen accountability through which project-affected communities can voice their grievances about non-compliance with the Framework.

(B) The Establishment of the CAO: Accountability as a Watchword in Development Finance

As the IFC's independent accountability mechanism, the CAO is charged with a mandate to be directly responsive to the concerns of project-affected communities.[10] It plays a critical role in providing a forum for communities to raise claims about a project's environmental and social impacts, and ensuring that the IFC and the company are adhering to their respective obligations under the IFC's Sustainability Framework. Before evaluating whether the CAO functions effectively for communities affected by early equity investments, it is necessary to understand the circumstances that gave rise to the creation of the CAO, and the normative purposes it is designed to achieve. In doing so, it becomes clear how the nature of early equity investments can shape and constrain the capacity of the CAO to achieve its objectives in the context of specific communities and/or countries.

Since the early 1990s, accountability has become a watchword in multilateral development finance.[11] The idea that the legitimacy of an international financial institution is tied to the extent to which it is accountable to the people affected by their projects has increasingly gained currency. The notion of citizen-led accountability—which refers broadly to the capacity of project-affected peoples and communities to demand that their localized grievances be addressed—was first operationalized by the World Bank in 1993, with the establishment of the World Bank Inspection Panel.[12] The Panel takes requests from groups who have harmed by a Bank-financed project, and provides a forum for communities to raise claims that the Bank has failed to follow its operational policies.[13] The creation of the Inspection Panel was spurred by the work of the World Bank's International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA) performing essentially public functions (such as building public development infrastructure) with no capacity for to hear the voices of project-affected peoples.[14] This accountability deficit within the World Bank (and other regional development banks) was exacerbated by the reality that frequently, project-affected communities could not rely on their governments to assert their interests, since those same governments were partners in the operations and did not have strong enough institutional capacity to regulate and manage the environmental and social impacts of Bank-projects. Compounding this accountability gap, project-affected communities are denied recourse to domestic courts in disputes against international finance institutions, which are customarily granted jurisdictional immunity before domestic courts by their constituent member states.[15]

As a private lending institution, the need for the IFC to be responsive to project-affected communities was not a significant issue until well into the 1990s. Between 1956 and 1990, the IFC was primarily engaged in non-recourse financing of industrial and financial projects in emerging markets, rather than large infrastructure projects which were government-led.[16] Beginning in the late 1980s, the IFC began to involve itself in financing private infrastructure projects in developing countries,[17] prompted by the emphasis on the privatization of state enterprises,

including state mining assets, advanced by the Washington Consensus in the 1980s and 1990s. This shift in IFC-investment priorities meant a sudden engagement in projects that entailed more acute environmental and social harms, which took place without a parallel development of accountability mechanisms for project-affected communities. This accountability deficit was brought to the forefront in 1996, in the context of a hydroelectric project on the BioBio River in Chile, which directly affected both indigenous and non-indigenous communities in the region.[18] A Chilean NGO had filed a complaint to the World Bank's Inspection Panel in 1995, which found it had no jurisdiction over IFC-sponsored projects.[19] As a result of significant pressure emanating from international NGOs and domestic pressure within Chile, the World Bank established the CAO in 1999, with a mandate to address complaints from people affected by projects sponsored by the IFC or guaranteed by the World Bank's Multilateral Investment Guarantee Agency (MIGA). [20]

The CAO is intended to operate as a fallback mechanism, to offer recourse to project-affected communities in circumstances where their grievances are not resolved by the company at the operation-level, or through legal and administrative procedures at the state level.[21] This mode of recourse offered by the CAO becomes critically important where a company is not responsive to the community's concerns and where the state's preference for uninterrupted economic development outweighs its desire to assert or otherwise address the rights of project-affected people. In the context of mining operations, the IFC's involvement in a project can potentially add a layer of accountability to the typically vexed tripartite relationship that exists between the state, a mining company and affected communities.

Today, the notion of citizen-led accountability is regarded as the key rationale for the proliferation of IAMs by development finance institutions, and is often represented as the cornerstone of sustainable development.[22] In addition to the World Bank Group, the African, Asian and Inter-American Development Banks, as well as the European Bank have adopted IAMs in various forms for Reconstruction and Development and the European Investment Bank.[23] A 2016 report on the "State of Accountability in Development Finance" identified a total of 758 complaints submitted over the past 21 years to 11 different IAMs.[24]

With over 20 years having passed since the creation of the World Bank's Inspection Panel, most recent commentaries acknowledge that the proliferation of IAMs has resulted in the increased accountability of IFIs to protect affected persons.[25] This is not without qualification. MacDonald and Miller-Dawkins take the view that while the IAMs' accountability practices have been linked to "significant shifts in the norms and power relations underpinning decision-making in contemporary development finance," those shifts have been "modest and context-dependent."[26] With respect to the CAO, Saper takes a more restrictive view of the concept of 'accountability' in this context,[27] though conceding that the CAO has "increased the IFC/MIGA's responsiveness to a variety of project-affected people by providing information disclosure, by creating opportunities for participation in problem solving, and by requiring IFC/MIGA to publicly give reasons for its action."[28] While there are multiple qualitative case studies that interrogate how the use of IAMs have increased accountability "over the life history of a grievance,"[29] there has not been any parallel interrogation of cases in which IAMs have entirely failed to bring about increased accountability because a complaint was never submitted. By drawing upon the case study of mineral exploration activities in Northern Haiti, where project-affected communities could have had recourse to the CAO but did not, we can see how certain institutional and operational deficiencies in the mechanism, coupled with important contextual factors, undermined its capacity to bring about citizen-led accountability.

(c) Compliance, Advisory and Ombudsman Functions

The CAO has three complementary roles—its compliance, advisory, and ombudsman functions. Any individual or group who is affected, or potentially affected, by the environmental or social impacts of an IFC or MIGA project may make complaints to the CAO.[30] After the CAO team determines the eligibility of the complaint and conducts an initial assessment of the issues and stakeholders, [31] project-affected communities may then have their claims addressed by the ombudsman or compliance functions.[32]

The CAO ombudsman functions as a dispute resolution body, which is focused on "flexible, collaborative processes, aimed at seeking joint solutions to the issues raised in the complaint."[33] Engaging the ombudsman function therefore requires the voluntary agreement of both the affected community and the company that has received IFC funding or is guaranteed by MIGA. The ombudsman has no power to issue binding decisions against the company for non-compliance with the Performance Standards.[34] However, the CAO actually perceives its lack of binding powers to be its greatest asset, since it takes the parties outside an adversarial setting.[35] It contends that the dispute resolution process can move the dispute "beyond judgment and finding fault to focus on practical, effective, and sustainable solutions for all involved."[36] This can be particularly important in cases where communities are aggrieved that the company has ignored their interests and breached its obligation to conduct adequate stakeholder engagement—a concern that is raised in 60 percent of all CAO complaints.[37] The goal of the process is to walk away with a sustainable agreement between the communities and the companies, and may include proposals for future action. For example, an agreement in the Yanacocha Gold Mine case in Peru resulted in the CAO training community members to conduct participatory water monitoring, together with the company.[38] The ombudsman's emphasis on collaborative problem solving places the company-community relationship at the center of its intervention—adhering to the view that procedural and informational forms of justice may be equally as important as any distributional outcomes arising from the process.[39]

Of all the CAO's functions, the ombudsman function is perhaps best positioned to address some of the concerns of project-affected communities in the context of early equity investments in the mining sector, where the environmental

and social impacts of mineral exploration are relatively non-invasive, but issues of community engagement and information disclosure are of central concern. In these contexts, the potential for recourse to the ombudsman represents an important mode of redress for project-affected people, whose most prominent demand may simply be more information and enhanced consultation from the company (as opposed to communities who oppose the project in its entirety). It is in this way that the ombudsman function can work to re-orient the accountability relationships that typically exist between companies and affected communities in the mining sector, by enhancing communities' ability to demand information, justification, and responsiveness from the company.

Through its compliance function, the CAO scrutinizes the IFC's and MIGA's own due diligence at the project level.[40] The focus at this stage is how the IFC or MIGA assured itself of the environmental and social performance of its investment, both at the initial appraisal stage and during its supervision of the project.[41] Although the center of the inquiry is the conduct of the IFC or MIGA, it is necessary for the CAO to review the actions of the company and verify outcomes in the field while performing this function.[42] The CAO Compliance function has a three-step process involving an initial appraisal, an investigation phase for cases that raise substantial concerns or issues of systemic importance, and monitoring of IFC and MIGA actions to address findings of noncompliance.[43] As noted above, the CAO does not have the power to bind the IFC or MIGA, and the President and management are free to disregard the results of the CAO's compliance investigation.[44] However, the research and production of a compliance investigation (which is publicly released after its completion) has the capacity, at the very least, to put information into the hands of project-affected communities, and can help to correct asymmetries in the informational resources that exists between companies and communities.

The CAO's advisory function operates separately to the compliance and ombudsman functions, in that it does not address the direct complaints of project-affected communities.[45] It provides advice to the President and IFC and MIGA management, highlighting systemic patterns of concern it has noticed occurring within the institutions' projects.[46] Its advice is derived from the insights gained through the operation of its other two functions.[47] The advisory function of the CAO is the least utilized branch of the CAO, though it has recently published an advisory lesson from CAO cases with regard to land related issues, which are raised in over 52 percent of CAO complaints.[48] A discrete focus by the CAO's advisory function on systemic issues in the early equity investment context might help to alleviate some of the generalizable concerns and patterns noted in this paper.

III. Mineral Exploration in Northern Haiti

(a) The IFC's Equity Stake in Eurasian Minerals Inc.

It is not surprising that the IFC had its sights set on supporting private investment in Haiti's nascent mineral sector. The country's profile sits squarely within those targeted by the IFC's Early Equity Program—that is, impoverished states in desperate need of increased economic development that also possess vast unexploited natural resources. For Haiti, both of those conditions are met. The country is frequently referred to as "the poorest country in the Western hemisphere."[49] With a Gross Domestic Product of just $846 USD per capita,[50] the vast majority of Haiti's citizens live under severe conditions of socioeconomic deprivation.[51] Both the Haitian Government and the IFC believe that a vital component of reversing the country's economic destitution lies in the mineral belt that spans across Haiti's Northern departments, [52] which is speculated to contain approximately US$20 billion in unexploited gold.[53]

Gold mining in Haiti is a relatively new endeavor,[54] and companies have not yet moved beyond preliminary research, prospection, and exploration activities.[55] The IFC contends that if the exploration in the country eventually leads to mine development and production, "the development impacts for Haiti could be substantial."[56] To that end, the IFC invested $10.3 million USD in equity in Eurasian Minerals Inc. between 2010 and 2015, intended to fund Eurasian's prospecting and exploration activities in Haiti.[57] Notably, the IFC's initial contribution of $5 million USD received IFC Board Approval on January 13, 2010—just one day after a 7.0 magnitude earthquake struck Haiti's capital Port-au-Prince, killing at least 200,000,[58] internally displacing 1.5 million people, and causing an estimated $7.8 billion USD in damage.[59] The IFC claimed that the investment came "at a critical time for supporting the country's recovery through private sector participation."[60] The equity stake in Eurasian added to the IFC's wider investment portfolio in Haiti, which included $61 million USD in private sector finance to clients in the telecom, energy, textile, and manufacturing sectors.[61]

The IFC's client in Haiti, Eurasian Minerals Inc., is a Canadian company that first initiated a gold and copper exploration program in Haiti in 2006, seeking to take advantage of the first-mover opportunities in Haiti's emerging minerals market.[62] In 2008, the company signed a joint venture agreement with Newmont Ventures Limited, a wholly owned subsidiary of US-based Newmont Mining Corp.[63] Together, the companies' activities covered six "Joint Venture Designated Projects" along the Massif du Nord mineral belt in Haiti's north.[64] The exploration activities continued until 2013, when the Haitian Senate passed a resolution calling for a moratorium on mining, following which the government of Haiti began to work with the World Bank's Extractive Industries Technical Assistance Fund to draft a new mining law to govern the sector.[65] Since that time, gold exploration activities in Haiti have remained in "care and maintenance status"—effectively dormant.[66] In November 2015, Eurasian sold its interests in the Newmont-Eurasian joint venture

to Newmont.[67] Then, in February 2016, Eurasian disposed of its last remaining interest in Haiti (the Grand Bois project) to a subsidiary of Delaware-based VCS Mining LLC.[68] Eurasian has retained only marginal royalty interests in both Newmont's assets in Haiti and the Grand Bois project.[69] In January 2016, the IFC marked its project status in Eurasian as "completed."[70]

Since the IFC's first tranche of funding in early 2010, Eurasian was placed under an obligation to ensure that its exploration activities in Haiti complied with the IFC's Environmental and Social Performance Standards.[71] The company committed to formalizing "existing community engagement activities" and agreed to prepare site specific Stakeholder Engagement Plans in order to meet the requirements laid out in the Performance Standards.[72] Eurasian also covenanted to address the environmental and social aspects on projects managed by its joint venture partner Newmont, "using commercially reasonable efforts to encourage its partners to implement IFC Performance Standards or equivalent practices."[73]

Despite the formal commitments to environmental and social safeguards negotiated in the corridors of power in Washington D.C., the reality on the ground in Haiti was vastly different. The following section endeavors to discuss some of the key ways in which Eurasian (and the Newmont-Eurasian joint venture) may have failed to bring the project into compliance with applicable Performance Standards during the exploration phase of the project, having regard to failures in community engagement and the problematic land access agreements the company acquired.[74]

(b) Falling below the Standards: Eurasian's Community Engagement and Land Access Agreements

Eurasian conducted a variety of exploration activities in Haiti's Northern Departments between 2009 and 2012.[75] At the outset, the IFC categorized the project's possible impacts as a "Category B" risk, denoting only limited adverse environmental and social impacts which are generally site-specific, largely reversible, and readily addressed through mitigation measures.[76] While it is true that exploration activities in general are significantly less invasive than the construction and operation of a large-scale open-pit gold mine, Eurasian was nevertheless under an enduring obligation to ensure compliance with the IFC Performance Standards, including adequate community engagement (including duties of consultation and information disclosure) and ensuring that its acquisition of any land rights complied with the Performance Standard on Land Acquisition and Involuntary Resettlement.[77] The company's activities during 2009 through 2012 involved early-stage exploration activities such as surface sampling, as well as late-stage exploration activities that involved core drilling and sampling. To conduct its exploration activities on privately owned land,[78] Eurasian concluded a number of land access agreements with landowners and occupants sometime between 2011 and 2012.[79]

The following analysis seeks to highlight the discrepancies between the lived experiences of project-affected communities in Northern Haiti and the obligations owed by Eurasian under IFC Performance Standard 1 (detailing the requirements for community engagement) and Performance Standard 5 (detailing the requirements for land acquisition). While there may have been other environmental and social impacts brought about by Eurasian's exploration activities, this analysis has been deliberately confined to issues of community engagement and land acquisition due to limitations in available evidence.[80]

Since Eurasian placed its projects in care and maintenance status in 2012, the Global Justice Clinic (GJC) at New York University School of Law has conducted a number of fact-finding visits to Haiti's Northwest Department to interview project-affected communities. The GJC, acting together with local community organizers, has interviewed numerous community members about their interactions with Eurasian, with a particular focus on the land access agreements that were concluded between the company and landowners. Their experiences highlight the ways in which obligations regarding information disclosure and consultation are inextricably linked with processes of acquiring consent for land use and acquisition. Landholders cannot meaningfully agree to land acquisition or use if they are not informed about certain fundamental issues, such as the purpose of preliminary mining activity, their rights and entitlements under law, and the implications of large-scale gold mining if it were to go ahead.

The GJC's fact-finding efforts led researchers to several small communities situated across the hills of La Montagne in Haiti's Northwest department. Newmont-Eurasian conducted exploration activities in this area between 2009 and 2012. The residents of these villages are primarily farmers—growing crops such as beans, plantains and peanuts, and raising small livestock.[81] During their visits to the La Montage Village, the GJC found steep hills and narrow roads isolate the villages from the larger communes of Jean Rabel and Baie-de-Henne to the north and south of the mountains. Some villages have primary schools, though most children must walk hours to access education beyond fourth grade. Residents speak Haitian Creole, rather than French, which is used by the government and taught in secondary schools in Haiti. While there is no reliable data on the literacy and education levels of the community members in these areas, GJC's research found that they generally have low literacy rates and do not rely on written documents as a method of record-keeping.[82] Prior to Newmont-Eurasian entering the area in 2009, the communities' interactions with external actors and state institutions were extremely limited. These communities face immense socioeconomic disadvantage and political marginalization, which in turn create significant inequalities in bargaining power when they interact with mining companies.

During 2011 and 2012, a number of residents in the villages of La Montagne signed paper agreements that authorized Newmont-Eurasian to use their land for exploration activities.[83] These agreements were concluded between landowners/occupants and Eurasian's Haitian subsidiary, Marien Mining. The GJC was unable to verify the exact number of agreements that were signed, though it estimated that several hundred land access

agreements were signed over the exploration period.[84] In interviews with GJC researchers, the landowners recounted experiences that raised serious questions about the circumstances in which these land access agreements were concluded, and in many cases, indicate that informed consent to the agreement was not given.[85]

The land access agreements, written in Creole, are drafted in terms which are remarkably favorable to the company, leaving the landholders with comparatively few rights, and no benefits whatsoever. The agreement grants the company a 'carte blanche' to perform activities relevant to exploration (including permission to conduct activities that may destroy the land), and does not provide the landowner with a right to terminate the agreement. It states that the company will indemnify the landowner for damage to the land and provide compensation for damage to crops, though it specifies that those amounts are to be determined by the company, and forbids the signatory from making "any other monetary demands."[86] Notably, it provides a sweeping limitation of the landowners' rights, stating that the landowner does not have the right, during or after the life of the agreement, "to ask for anything else, or make any demands or take action against the Company that has to do with this contract or its execution, for whatever reason."[87] Read together, the provisions of the agreement appear to foreclose the rights of the landholder to any remedy outside the company's specified forms of compensation for damage.[88] These agreements were drafted by company, and do not appear to have been open for revision by the landowners at any time—suggesting that no meaningful negotiation took place as to the agreement's terms.

In correspondence with the GJC, Newmont-Eurasian has contended that the land access agreements were not intended to function as legally binding documents between the company and the landowners.[89] This position is incredibly hard to accept, having regard to the agreement's use of legal language, the strength of its terms and the formalities of its execution. One of the clauses in the agreement states that the agreement may not be "corrected, modified, changed, or amended except in writing signed by the parties to the agreement or their legal representatives."[90] Under the terms of the agreement, the document needed to be executed with the signature of the landowner, the CEO of Marien Mining and a witness.[91] It would take a serious exercise of legal sophistry to come to the conclusion that these agreements were not intended to establish a legally binding relationship between the parties. Even if the agreements did not constitute legally binding documents, it is arguable that the formalities in the agreements' execution were intended to create that impression in the mind of the landowners.

In February 2014, local community organizers, together with the GJC, brought affected communities together to discuss the content and implications of the land access agreements. GJC researchers remarked that many of the residents who had signed the land access agreements appeared to be learning of their true content for the first time.[92] Some landholders thought that signing the agreement meant they were guaranteed jobs with the company.[93] Another explained that she thought the agreement would bring future development benefits, like those brought by NGOs.[94] Other landholders reported that they were handed the agreement to sign, but did not have time to read or understand it.[95] Many said they had no idea the agreement gave the company the right to damage their land.[96] In other cases, landholders reported that they were offered a sum of 1000 Haitian Gourdes (approximately $16 USD) in exchange for their signature, but reported that they were not informed of the agreement's contents.[97] Others confirmed that they understood they needed to sign the Agreement in order to get compensation for damaged crops.[98] One resident recalled that a company engineer asked him if he owned the land, and whether or not he could read. When the resident replied that he could not, the engineer then dipped the man's thumb in ink, and affixed it to a land access agreement.[99] Newmont-Eurasian, in contrast, made the claim that it "took nearly two weeks to complete each agreement".[100]

It can be argued that Eurasian's conduct, in carrying out its exploration activities in La Montagne, fell short of the obligations contained in the IFC Performance Standards.[101] In particular, the administration of land access agreements illustrates Eurasian's acute failure to comply with Performance Standard 1 (PS1), under which the company was obliged to undertake effective community engagement. The obligation under PS1 is comprised of several elements which, relevant to the instant case, include consultation and information disclosure.[102] These duties must also be read together and cross-referenced with Performance Standard 5 (PS5), which address the company's obligations regarding land acquisition and resettlement. The key objective of PS5 is to anticipate and minimize adverse social and economic impacts from land acquisition or restrictions on land use, resettlement and displacement. While some landowners raised claims that the company's exploration activities had caused damage to their crops (and thus, economic displacement in some instances), it is argued here that the company's central failure related to the process through which the Land Access Agreements were negotiated, and the manner in which the communities were informed and consulted about Eurasian's exploration activities. It is for this reason that Eurasian's conduct will be primarily evaluated according to the company's compliance with PS1, addressing community engagement as the critical concern.

(i) Community Engagement

Upon receipt of IFC funding, Eurasian began to formalize its "existing community engagement activities" and prepare site-specific Stakeholder Engagement Plans ("SEPs") for each exploration property.[103] No SEPs prepared by Eurasian for its projects in Haiti have not been made publicly available, and efforts made by the GJC to obtain them via the IFC Information Disclosure process or from the companies directly were unsuccessful.[104] As such, the full extent of Eurasian's community engagement is unclear. The extent and adequacy of such stakeholder engagement is not typically revealed or examined unless a complaint is filed to the IFC CAO.[105] Newmont-Eurasian reported to the GJC that they had conducted "formal meetings" with community members at the sites of their exploration activities, and that

Newmont-Eurasian employees had conducted informal visits to individual landowners.[106] However, the efficacy of any such engagement must be questioned in light of the community members' differing understandings about the nature of the company's exploration activities, and the misinformation about the potentiality of gold extraction in the community's future. One resident of Gode, La Montagne, for example, stated "We were in the dark. They took our land and dug on it. They sent a paper to some of us and we did not know what it was."[107] Another resident of Lalan, La Montagne, recalled "[t]hey showed us that this was a great opportunity for us. They said that they were looking for gold . . . and if they found [it], they would sell it in another country and give us American money."[108] While PS1 emphasizes that SEPs form the basis for building "strong, constructive and responsive relationships" between the company and communities, it also recognizes that the "nature, frequency and level of stakeholder engagement may vary considerably and will be commensurate with the project's risks and adverse impacts, and the project's phase of development."[109] In light of this, it might be somewhat understandable if a company formed the view that its obligations regarding community engagement at the exploration phase of mining activity were less onerous, since activities conducted during the exploration phase are typically less invasive than late-stage mining activities.

The communities' differing understandings of the mining activity is, in itself, evidence of the company's failure to comply with the Performance Standards. It must be noted, however, that Eurasian conducted its exploration activities in Northern Haiti between 2009 and 2012, and it is estimated that the majority of Land Access Agreements were administered between 2011 and 2012.[110] Thus, when the GJC interviewed residents in La Montagne in 2014, a minimum of two years had passed since the company had interacted with the communities. It is possible that this passage of time may have led to some level of recall bias and confusion about the precise details that community members were given by company representatives. However, given the importance of the subject matter, it is arguable that Eurasian should have gone to greater lengths to ensure that community members had an unimpeachable understanding of the materials facts, regarding both the content of the Agreements and the nature of Eurasian's interest in the land. In later correspondence with the GJC, in which Newmont-Eurasian were disputing allegations that the Land Access Agreements were administered improperly, the companies stated that "any information to the contrary must be based on a misunderstanding." [111]

(ii) Project Consultation

When a company accepts IFC funding for a project, its obligations under the rubric of 'community engagement' in PS1 includes processes of community consultation and participation.[112] The extent of these obligations are commensurate with the type, scale, location and likely impact of the project,[113] as well as the presence of indigenous groups in the project's vicinity.[114] For example, the obligation on companies to undertake an "Informed Consultation and Participation" (ICP) process only attaches to projects with *significant* adverse impacts on project-affected communities.[115] For projects with adverse impacts to indigenous peoples, in some cases the company is required to go beyond ICP, and obtain the group's Free Prior and Informed Consent (FPIC).[116] In the instant case, Eurasian was not technically obligated by IFC Standards to undertake either ICP or FPIC processes, because the company's exploration activities were only categorized as potentially causing 'limited' adverse impacts on project-affected communities, and did not affect any indigenous populations.[117] However, even under the weakest applicable requirement for community consultation, Eurasian appears to have fallen below the standards that attached to its project under PS1.

In the instant case, Eurasian was under an obligation to undertake a "a process of consultation in a manner that provides the affected communities with opportunities to express their views on project risks, impacts and mitigation measures, and allows the client to consider and respond to them."[118] PS1 explicitly states that this is a two-way process that should begin early in the life of the project, and must be based on the prior disclosure of easily accessible project information.[119] Despite the 'formal meetings' purportedly held by Newmont-Eurasian, it is arguable that the consultation process was inadequate, having regard to the enormous inconsistencies between the varying degrees of information given to landholders. There also appeared to be a critical community-wide information deficit about the nature of the venture and the possibility of gold mining in the communities' future.[120] These failures are particularly salient in the earliest stages of mining development, recalling that one of the key purposes of the consultation processes is to manage community expectations by clarifying the extent of the company's responsibilities, so that misunderstandings and unrealistic demands can be avoided.[121] Based on the expectations held by many project-affected people in La Montagne, Eurasian's consultation processes failed in this regard. One resident of Gode, La Montagne, stated that "if they found gold on your land they would give you a house if you deserved a house, a car if you deserved a car".[122] Another resident of Lalan, La Montagne recalled the impression that if the company found gold on residents' land, they could "even get a visa to leave the country."[123] Newmont-Eurasian later rejected allegations that residents were promised visas in exchange for signing land access agreements,[124] but the "expectation management" envisioned by the PS1 seems to have failed spectacularly.

The IFC itself recognizes that companies often make 'strategic choices' about community consultation in the early stages of large-scale projects.[125] Outside the Performance Standards, the IFC encourages businesses to 'disclose and consult selectively in the very early stages', because "full public disclosure of information may not always be feasible or prudent, and can lead to unintended consequences such as raised expectations, fears, or speculative behavior, as well as pose business risks vis-à-vis competitors."[126] It notes that some of the particular challenges in the exploration phase include difficulties in explaining the nature of exploration to communities, informing them about the differences between exploration and an actual mining operation,

and trying to manage expectations in the face of uncertain outcomes.[127] This is important in the later phases of exploration activities, as core-drilling equipment can easily be misconstrued as active mining.[128] Although parsing out these complexities to local communities does demand a thorough consultation process, a failure to do so could create long-standing and deep divisions between the company and communities. In the case of exploration activities in northern Haiti, Newmont-Eurasian's consultation with project-affected communities seems to have bred distrust toward mining companies.1[29] This is particularly important if gold mining extraction goes ahead in Haiti, since community consultation during the exploration phase can "often set the tone for the remainder of the project's life." [130]

(iii) Information Disclosure

Eurasian's obligations regarding consultation were inextricably tied to its obligations surrounding information disclosure, since the quality of any consultation efforts should be measured in light of the scope of the information made available to the project-affected community. Information disclosure is a critical part of community engagement, as it allows project-affected communities to understand the risks, impacts and opportunities of a project.[131] As evidenced by the statements made by residents about the purpose and content of the land access agreements, the residents of La Montagne do not seem to have received sufficient information about Eurasian's exploration activities in their communities.

The requirements of IFC's PS1 mandate that the client (here, Eurasian) will provide project-affected communities with access to relevant information on (i) the purpose, nature, and scale of the project; (ii) the duration of proposed project activities; (iii) any risks to and potential impacts on such communities and relevant mitigation measures; (iv) the envisaged stakeholder engagement process; and (v) the company's operational-level grievance mechanism.[132] With respect to the land access agreements, Eurasian was also under an obligation under PS1 and PS5 to ensure that landowners were given sufficient information to understand the nature of the terms and the legal implications of the agreements.[133] The guidance note that accompanies PS5 states that in negotiating agreements for land acquisition (including land use), the company should summarize all relevant information for public disclosure, and ensure that all project-affected people understand the acquisition procedures and know what to expect at the various stages of the transaction (e.g., when an offer will be made to them, how long they will have to respond, grievance mechanism, legal procedures to be followed if negotiations fail).[134] Based on the landowners' various comments and impressions of the Agreements and the mining venture generally, it appears that Eurasian's conduct represented a serious departure from the requirements laid out in PS1 and PS5. Many residents of La Montagne stated that they did not understand that the land access agreements granted the company the right to explore for gold on their land, and were uninformed about the risks and consequences of mineral exploration.[135] Interviews with landowners revealed that very few of them knew they had the right to refuse to sign the agreement.[136] More generally, the IFC Performance Standards also encourage clients to provide relevant documentation, such as Stakeholder Engagement Plans, Ecosystem Restoration plans, and the company's environmental and social policies.[137] PS1 also encourages the client to provide "easy-to-understand" summaries of key issues and commitments.[138] The information should be in the appropriate language, and accessible and understandable to the various segments of the affected communities.[139] After its exploration activities were completed, Newmont-Eurasian confirmed that it did not prepare any educational or explanatory documents about key issues for the community, and stated that it only shared information with community members orally.[140]

The failures related to information disclosure were not Eurasian's alone. It must be kept in mind that the primary duty to inform project-affected communities about mining activity and to protect their human rights lies with the government of Haiti—which appear not to have materially assisted during Newmont-Eurasian's negotiations with landowners.[141] Correspondence with the companies and interviews with landowners revealed that local members of the *Conseil d'Administration de la Section Communale* (CASEC) were in some cases present during home visits or during meetings conducted by Newmont-Eurasian. While Newmont-Eurasian claimed that the presence of the CASEC member "allowed for more transparency" in the process,[142] some community members reported that the presence of the local authorities made them feel like they did not have the option to reject the Land Access Agreement.[143]

In any case, it does not appear that the presence of CASEC members at various sites of consultation actually improved the quality of information disclosure or enhanced the consultation process—leading one to conclude that the government had violated many of its applicable obligations under domestic Haitian law and human rights law.[144] Both international and regional human rights instruments binding on Haiti guarantee a right of access to information,[145] which is also enshrined in the Haitian Constitution.[146] In the Inter-American context, the right to access information is understood as a positive state duty to "provide the public with the maximum quantity of information proactively, at least in terms of . . . the information required for the exercise of other rights."[147] This is particularly important in the context of mining operations, where project-affected communities require sufficient information to allow them to meaningfully participate in decisions affecting their own lives and to protect their enjoyment of other rights frequently impacted by mining operations, such as the right to water, the right to health, and the right to own and use land free from forced eviction.[148] With respect to the administration of the Land Access Agreements, the positive duty of the Haitian state to provide for access to information under human rights law should also be read together with relevant domestic laws, such as the 1976 Mining Decree, which guarantees arms-length negotiations between landowners and companies, and provides for recourse to an arbitral tribunal in the event of disagreement between the parties.[149] If the state had informed residents of La Montagne with information about their

rights under the Mining Decree, the residents may have been at a better position to assert their rights and interests.

However, it must be recalled that the obligation of the Haitian state in these circumstances does not displace Eurasian's obligation to comply with the IFC Performance Standards, and therefore does not negate any failure by Eurasian's adequately disclose information about the project to affected communities. This is particularly important bearing in mind considering that a key rationale for the Performance Standards is to strengthen the accountability relationships between the company and community in governance contexts where the state is institutionally weak, and cannot be relied upon to protect the rights and interests of its project-affected communities.[150]

(iv) Lack of Grievance Mechanism for Project-Affected Communities

One final deficiency in Eurasian's conduct during its exploration activities in La Montagne relates to the company's failure to provide an operational-level grievance mechanism (OGM) for the project-affected communities.[151] PS1 requires companies to establish a grievance mechanism for project affected communities to receive and facilitate resolution of communities' concerns about the client's environmental and social performance.[152] Eurasian was under an obligation, even at the exploration phase, to operationalize such a mechanism and ensure that the procedure was easily accessible and understandable, and to communicate its availability to affected communities.[153] The obligation to establish an OGM also forms a critical component of the UN Guiding Principles on Business and Human Rights, which the IFC clients should respect.[154] Residents of La Montagne said that they were not aware of any grievance mechanism or any way to submit a complaint to Newmont-Eurasian, and the company has not adduced any evidence that a formal mechanism ever existed.[155] While Newmont-Eurasian claimed that it had established "informal" complaint mechanisms for project-affected communities, the GJC's interviews with community members suggest that these informal mechanisms were not sufficiently publicized or accessible.[156] The company's failure to establish an accessible OGM was compounded by the community's lack of effective recourse to the IFC CAO, discussed below.

IV. Evaluating Communities' Recourse to the CAO

(a) Access to the CAO for Project-Affected Communities in Northern Haiti

As the IFC had an equity stake in Eurasian from 2010-2015, project-affected communities in Haiti had the right to access the CAO as a mechanism to assert their grievances against the company.[157] The CAO's function as a "fallback mechanism" is particularly important in countries like Haiti, where communities cannot rely upon the government to protect their rights and in scenarios such as the one described here, where the company has failed to provide operational-level grievance mechanisms or other channels. The CAO, when functioning effectively, has the potential to mitigate disparities in power relations between companies and communities, put information in the hands of project-affected peoples, and encourage collaborative solutions to localized grievances. For the communities affected by Eurasian's activities in Northern Haiti, invoking the CAO's ombudsman function may have helped to alleviate some of the gross failings of the company's community engagement processes, including both inadequate consultation and information disclosure. At the very least, at the urging of local communities, a CAO mediator could have helped to bring Eurasian to the table and encouraged a meaningful process of consultation.

The CAO was never engaged in Haiti—as project-affected communities, in La Montagne and at Eurasian's other project sites, did not file a complaint with the mechanism. There were a number of factors which may help to explain why the mechanism was not invoked in this case. It is arguable that the communities' position as an 'early equity project-affected community' (EEPAC) played a significant role in determining whether or not the CAO was engaged. For the purpose of the following analysis, EEPACs may be thought of as involving contexts in which there are only nascent levels of community mobilization around mining, limited informational resources, and weak linkages with transnational advocacy networks to help them survey complex accountability landscapes. Arguably, the design and operation of the CAO is not well equipped to respond to these unique dynamics—undermining the capacity of the CAO to achieve its desired normative purpose of enhanced community responsiveness, and leaving the interests of EEPACs vulnerable to disregard in the earliest stages of mining operations.

The following analysis offers two potential explanations why EEPACs in Haiti may not have engaged the CAO mechanism as a forum to assert their grievances. It does not purport to speak for, or on behalf of those communities, but merely seeks to reflect upon certain institutional, operational and contextual factors that may have rendered the CAO effectively inaccessible in the instant case. The first explanation relates primarily to the embryonic nature of community mobilization concerned about mining that exists during the earliest stages of mining operations. From the starting point that EEPACs in Haiti did not even know that the IFC and/or the CAO existed, it reflects that IAMs, like the CAO, are generally the most accessible and are most effective when affected communities have linkages with transnational advocacy networks that open up spaces for raising claims in international fora, and help to unlock accountability landscapes. The second explanation relates to concerns that the CAO does not offer a space for communities to contest development paradigms, and the analysis attempts to dissect the multiple factors which may render EEPACs disinclined to engage with an accountability mechanism that is connected to an international financial institution funding the project. These types of "contestational grievances," which question the legitimacy of the CAO as a mediator or reject the need for a mediator at all, arise only after communities have the informational resources to understand the nature of their concerns and form preferences about the ways they should be asserted.

(b) Community Mobilization in the Early Stages of Mining Operations

Unsurprisingly, the earliest stages of mining activity are accompanied by nascent (or even non-existent) stages of community mobilization around mining in project-affected areas. In fact, they appear to develop in parallel to one another. As mining activity matures, so to does the strength of the community mobilization poised to respond to it. As the case of mineral exploration in Northern Haiti highlights, one clear defect in the CAO's institutional design is that its accessibility and efficacy may turn on the strength of community mobilization around the mining operations (including informational resources to facilitate stakeholder mapping) and their connection to national and perhaps transnational networks. Where community mobilization is only weak, project-affected people are unlikely to bring complaints to the CAO, as they do not possess the informational, human, or financial resources to access the mechanism.

The concept of community mobilization in response to mineral extraction can be understood as a set of processes of collective action, that are sustained across space and time, that reflect grievances about perceived injustices, and may constitute the pursuit of alternative agendas.[158] This mobilization develops in response to the threats presented by particular forms of economic development. In the context of mineral extraction, there is a litany of common concerns that range from environmental and social impacts, such as concerns about interference with local water sources and resettlement, to grievances with the inequitable distribution of the harms and benefits of resource extraction. The extent to which this mobilization is able to modify development practices depends greatly on the relative power of the moments versus the economic actors involved.[159] This means that in circumstances where the community mobilization around mining is weak, their capacity to influence decision-making and development outcomes may be significantly reduced.[160] Understandably, the strength of the movement critically depends on its access to financial, human, informational, social and other resources.[161] In the earliest stages of mining activity, project-affected communities' access to such resources are considerably limited. The fact that these communities have not been previously exposed to mining operations means that they never had the need to accumulate the resources either.

At first glance, submitting a complaint to the CAO does not depend on the strength of the community mobilization in a project-affected area, since the process does not require a great deal of financial or human resources to engage. Its complaint submission process is well designed to maximize accessibility for project-affected communities. It does not have any formal requirements for complaints (other than that it is in writing), and it accepts these in any language.[162] In theory, communities do not need to approach the CAO with complaints that are articulated as legal claims (or refer to the Performance Standards), nor do they need to be substantiated by evidence.[163] As distinct from human rights courts, complainants need not show there has been an exhaustion of domestic remedies prior to approaching the CAO, or establish that it has already attempted to engage with the company in any way.[164] In contrast to the World Bank Inspection Panel, complaints can be lodged by a representative organization (such as a domestic or international NGO) as long as there is evidence of authority to do so.[165] A complaint may be submitted by one individual alone or group of individuals (although during the CAO's assessment phase, it will gather the viewpoint of other community members). This is an important procedural feature, since it does not demand any community-wide coherence or agreement about the nature of the grievances prior to making a complaint. The cumulative effect of these features is that the CAO does ensure a commendable degree of procedural accessibility.

In the instant case, it appears that the CAO's operational design does not go far enough in ensuring contextual accessibility. The CAO's contextual accessibility should take into account the lack of resources held by a community, which could inhibit the ability of its members to access the CAO. The case of mineral exploration in Haiti demonstrates how a lack of informational resources in particular can constrain the communities' ability to map stakeholders, unlock complex accountability landscapes and access grievance mechanisms such as the CAO. In La Montagne, for example, the accessibility of the CAO must be understood in the context of the isolated terrain in which the residents live. Communities had very little information about the nature of the company's interest in their land and the impacts and opportunities of gold mining that might occur in the communities' future.[166] Residents have only limited access to formal education, and do not possess the informational resources (such as the internet, access to newspapers, radio, etc.) which could have enabled them to begin to grasp the complex nature of the investments and their potential modes of recourse against the company even at the early exploration stages.[167] Crucially, the community members did not know what the IFC is, or that it had an equity interest in Eurasian.[168] They did not have any idea that the CAO existed.

Internally, the CAO is well aware of these shortfalls. It notes that "there is very little knowledge of the existence of IFC and MIGA, and communities and civil society do not know that the investments in their midst have the World Bank Group's involvement." [169] The CAO also claims that it has "persisted in asking IFC and MIGA to enhance efforts to ensure that communities know of their involvement, and are aware of the availability of, and access to, recourse where needed."[170] Of its own volition, the CAO undertakes outreach activities, which generally consist of meetings with domestic civil society organizations (CSOs), rather than undertaking direct outreach to affected or potentially affected communities.[171] The CAO's outreach activities in Haiti were limited to civil society meetings conducted in the U.S., that took place after Eurasian's operations had been placed in care and maintenance status—with the result that communities and mining activists in the Northern departments did not know about the IFC or CAO until after the exploration activities by Eurasian had ceased.[172] While Eurasian's exploration activities were active, information about the CAO was only available online, which is insufficient in the instant case since project-affected

communities in remote areas such as La Montagne tend to lack access to computers or smartphones (even if project-affected communities in Haiti had access to the internet, the CAO website is in French, not creole, and literacy levels are low, to say nothing of technical capacity).[173]

Notably, the IFC does not legally require the company to disclose the existence of the CAO to project-affected people (or the role of IFC funding in the project), although arguably this could be achieved by incorporating disclosure as part of the company's Stakeholder Engagement Plans.[174] The World Bank itself concedes that evidence shows that "IFI and borrower staff are reluctant in sharing information on accountability mechanisms with people in project affected areas."[175] Both the IFI and the company have a vested interest in ensuring that progress is not disrupted by community mediation, which can be timely and expensive. For example, between 2003-2015, Minera Yanacocha—an IFC-sponsored company that operates the Yanacocha gold mine in Peru—has contributed $3.21 million USD to the CAO to pay for the costs of "extended-term CAO mediation" between the company and project affected communities.[176]

In the absence of a company that engages in meaningful community engagement at the earliest phases of its mining activity, remote communities like those in La Montagne face startling asymmetries in their informational resources compared to the companies encroaching upon their land. The ability of EEPACs to gain such resources (and in turn, unlock channels of redress such as the CAO) appears to depend in large part upon their links with broader networks of community mobilization, as well as domestic and international NGOs. Linkages to transnational advocacy networks become crucial. Keck and Sikkink's seminal work on transnational advocacy networks explains how they function to multiply channels of access to the international system, and help to make international resources available to new actors in domestic political and social struggles.[177] Transnational advocacy networks include "those relevant actors working internationally on an issue, who are bound together by shared values, a common discourse and dense exchanges of information and services."[178] In the case of transnational advocacy networks working on accountability struggles against large-scale mining operations, the shared values may be conceived of as an overarching commitment to the empowerment of project-affected communities to have greater influence in the decisions that affect their lives—whether that entails the power of communities to veto a project in its entirety, to protect themselves against its threatened harms, or to access a greater share of its proposed benefits.[179] Keck and Sikkink argue that at the core of the relationships in transnational advocacy networks is information exchange, which allows actors to mobilize information strategically, gaining leverage over powerful entities.[180]

These linkages to transnational advocacy networks are extraordinarily important in the context of EEPACs, which face complex accountability landscapes they alone do not have the informational resources or experience to unlock. For communities, surveying the multiple actors, understanding their roles and knowing where to access channels of redress is a complex task. They are gravely burdened by the lack of transparency in modern development finance. The World Bank notes that "[w]hat . . . project-affected people . . . see on the ground is the government, a company, or a subcontractor implementing a project. Where the financing is coming from is generally quite opaque to them."[181] As there is no duty for companies to disclose the fact of IFC funding (and in most cases, obligations around community engagement during mineral exploration tend to be construed loosely), it is difficult to see how CAO could be accessible to EEPACs without help from broader advocacy networks.

At first glance, the CAO's data presents a picture to the contrary. It finds that in the past 15 years, the majority of complaints to the CAO (44 per cent) have been filed solely by individuals and community members, without the assistance of other organizations on their behalf.[182] A further 24 per cent of complaints were filed by local CSOs, 14 per cent by national CSOs, and only 8 per cent by international CSOs.[183] However, this data does not capture the presence or absence of transnational advocacy networks that may be helping to build the communities' informational resources that ultimately facilitates their access to the CAO. It must also be understood in light of the increasing trend that international NGOs 'remain in the background' when communities lodge complaints to IAMs, given the preference held by IAMs for being directly contacted by communities.[184] The data also fails to capture the instances where communities were impacted by IFC-funded projects, but did not know the CAO existed (and so, did not register a complaint). An attempt to gauge the accessibility and efficacy of any accountability mechanism should pay close attention to how well it functioned for the people most-overlooked, whose rights and interests have been disregarded most acutely. During the years that Eurasian's mining exploration activities were underway in Haiti, the CAO was effectively inaccessible. The CAO itself did not conduct outreach activities to the communities,[185] and the communities had not yet forged relationships with transnational advocacy networks that might have helped to open up channels of redress.

The case study in Northern Haiti also illustrates why it is problematic for the accessibility of the CAO to hinge largely on the linkages that communities have with domestic NGOs and transnational advocacy networks. As noted earlier in this paper, the IFC's investment in Eurasian was approved by the IFC Board of Directors just one day after Haiti was struck by the earthquake in 2010.[186] Following the earthquake, NGOs attempting to undertake disaster relief and reconstruction flooded into the country on a scale as massive as the shock itself.[187] This post-earthquake chaos compounded an already problematic NGO landscape in Haiti, which was frequently referred to as a 'Republic of NGOs' even before 2010.[188] As a result of the outpouring of support from the international community, in the form of both charitable donations and grant funding, an immense (and inestimable) amount of funding was received by humanitarian NGOs.[189] Having regard to the mammoth extent of the human rights violations occasioned by the January 2010 earthquake,[190] and the cholera outbreak brought by UN Peacekeepers in October of the same year,[191] it is perhaps not

surprising that isolated communities affected by mining exploration in the country's north were overlooked by advocacy NGOs operating in the country in the aftermath of the earthquake. While in another context, it might be expected that the presence of a transnational mining company would elicit immediate attention from domestic and international advocacy NGOs, the same could simply not be assumed in Haiti, a country caught up in a maelstrom of natural and man-made disasters. As this paper has attempted to show, linkages with domestic and international NGOs play a pivotal role in allowing project-affected communities to build the informational, human and financial resources needed to unlock complex accountability landscapes and access IAMs. Ultimately, these contextual factors must be kept in mind when appraising the true accessibility of IAMs such as the CAO, which critically rely on the presence of engaged civil society networks to facilitate their accessibility and usage.

Although Eurasian's activities in Haiti ceased in 2012, project-affected communities in Haiti's Northern departments continue to mobilize against the future threat of gold mining in their future. The Justice in Mining Collective ('Koleftif Jistis Min' or KJM), a platform of ten CSOs across Haiti, has since been working in mining-affected areas to inform local communities of their rights related to the mining operations and the potential impacts of metal mining. In addition, the KJM made productive partnerships with a number of foreign-based advocacy organizations in Canada, the United States, and in countries in Central and South America and in West and Central Africa.[192] Since 2013, KJM has worked closely with the Global Justice Clinic (GJC) of New York University School of Law. GJC continues to provide advocacy support and technical assistance to monitor the development of the extractive industry.[193] In 2013, the KJM and GJC held a number of community meetings in Northern Haiti to discuss the potential impacts of gold mining if it returned the region.[194] In an apt illustration of the reach of transnational advocacy networks, GJC advocates also held screenings of 'video postcards' that conveyed advice and shared the experiences from a mining-affected community from the Porgera Valley in Papua New Guinea.[195] The KJM and GJC now works with community members to develop water monitoring practices, so that affected populations are accustomed to carefully tracking changes to their local water sources.[196] Evidently, project-affected communities in Haiti's north are increasingly gathering the type of informational resources necessary to make preferences about mining on their land in the future, as well as the technical and human resources necessary to defend their rights against mining companies if they return to conduct further exploration or extraction activities. There is no doubt that if gold mining does return to the region, the communities will have to grapple with the rapidly changing landscape of actors involved in such projects.[197] However, they will be markedly better equipped to do so in light of the growing strength of their resources and their linkages to transnational advocacy networks across the world.

(c) The CAO as a Space for Contesting and Rejecting Projects

The second hypothesis as to why EEPACs in Haiti may have been disinclined to file a complaint with the CAO is related to the fact that the mechanism does not offer sufficient space for communities to challenge the project and fundamentally contest the development paradigm that underlies it. This limitation goes beyond questions of accessibility in the strict sense, but goes to the heart of whether or not the mechanism is able to properly fulfill its normative function of enhancing responsiveness to communities in a meaningful sense. The issue arises once communities know about the potential for recourse to the CAO, and have enough information to make strategic decisions about how they wish to frame and assert their grievances against the company, state and IFIs sponsoring the project. It is important to note that by the time communities in Haiti had begun to connect with transnational advocacy networks and mobilize informational resources, the Newmont-Eurasian joint venture had completed its exploration activities and left the region. Technically, communities could have lodged a complaint with the CAO until January 2016, at which time the status of the IFC's investment in Eurasian was marked as 'complete.'[198] Community organizers noted that after 2012, there was a general sense amongst communities that they did not wish to re-engage with companies that had already left.[199] Engaging with the CAO mechanism can be incredibly resource intensive for communities, and the resolutions brokered by the CAO's mediation function often entail protracted, collaborative engagement with the company (such as joint water monitoring).[200] For reasons discussed below, this is not the preferred mode of recourse for communities that reject the project outright; that do not wish to engage further with the company; or for whom it would be a waste of resources to channel energy into an IAM that cannot address their fundamental concerns.

By its institutional design, the CAO is limited to mitigating the environmental and social risks of IFC-sponsored projects. Through its ombudsman function it brings the company and communities together for enhanced dialogue and collaborative problem solving. Therefore, in circumstances in which communities wish to entirely oppose resource extraction on their land, the CAO is an unsuitable venue for raising such claims.[201] Balaton-Chrimes and Haines draw an important distinction, in the field of accountability in development finance, between "imminent complaints" and "contestational grievances."[202] Immanent complaints are those that primarily relate to social and environmental impacts of projects—to which the CAO may provide an appropriate forum for redress. Contestational grievances are those that seek to reject the project entirely, or at the very least demand respect for the communities' right to participate in the decision whether mining should go ahead at all. The problem-solving approach to accountability and focus on impact mitigation, espoused by the CAO, is appropriate for grievances regarding 'how' but not 'whether' a project should proceed.[203]

The distinction between immanent complaints and contestational grievances can be particularly salient during the earliest phases of mining, when the state has not yet made a decision

whether to permit the construction of a mine and the extraction of resources from the land. By engaging with the CAO's ombudsman function to address the environmental and social impacts of the project, communities may risk 'depoliticizing' the accountability struggle, by organizing and legitimating the broader accountability failures related to their contestational grievances.[204] If communities wish to reject the project altogether, it may be more advantageous for them to engage in more adversarial advocacy strategies, asserting their grievances against the state which may still be considering whether to grant permits for mine development and resource extraction, rather than framing immanent complaints against the company by engaging the CAO (and implicitly legitimating the company's 'right' to be there). While it may also be advantageous for communities to assert their opposition directly against the company at the early phases of mining activity, though they may not wish to do so through the depoliticized and disciplining context of the CAO.

The community dynamics that exist in relation to the Amulsar gold project in Armenia, which also falls under the IFC's early equity investment portfolio, are instructive.[205] The IFC currently holds an equity stake in Lydian International Limited, a junior gold mining company, sponsoring exploration activities in Armenia.[206] In July 2014, project-affected communities filed a complaint with the CAO (with the help of nine domestic NGOs), highlighting the inadequacy of Lydian's stakeholder engagement process and raising concerns about the project's potential environmental and social impacts as the mine matures.[207] Before an Agreement to Mediate was signed, community representatives decided they did not wish to participate in mediation with the company after all, fearful that doing so would "compromise their principles" and undermine their broader opposition to the mine.[208] There was a general recognition that the CAO's ombudsman function did not provide an adequate space for the community to contest and reject the project in its entirety.

Although the Armenian communities felt the CAO's ombudsman function was insufficiently suited to accommodate the nature of their accountability struggle, they did elect to have their complaint proceed through the CAO compliance function.[209] As of April 2016, the case is under compliance audit, after an initial appraisal by the CAO found that the project raised "substantial concerns about a range of potential or actual environmental and social impacts of the project," [210] certain aspects of which relate directly "to its nature as an early equity mining investment."[211] Indeed, the CAO's compliance appraisal identified many concerns that have been highlighted in the context of mineral exploration activities in Northern Haiti.[212] In particular, it identified problems with the company's restricted stakeholder engagement, the lack of information given to project-affected people, the absence of a company grievance mechanism, as well as broader concerns about the company's land acquisition under PS5—including a failure to deal with landholders transparently during the exploration phase.[213]

Importantly, the CAO's compliance investigation, which is currently pending, will go beyond an assessment of the company's exploration activities and will include a review of the project's potential impacts on the environment and surrounding communities, as the mine moves into the development and construction phase in 2016. Once the report is released publicly, communities will have a significant amount of information at their disposal, such as evaluations of Lydian's environmental and social management systems, which can be used to inform their broader accountability struggles. Thus, although the CAO's ombudsman function did not offer a suitable forum for redress for the communities in Armenia, the products of the compliance function may at least help to partially correct the informational asymmetries between the parties.

It is worth noting, however, that the communities' capacity to use the information generated by the CAO's compliance function may turn on the strength of their linkages with transnational advocacy networks and access to impartial experts. In order to use information such as environmental and social impact assessments (ESIAs) for leverage in accountability struggles, communities often rely on alliances with scientific and technical experts from both domestic and international NGOs and universities.[214] These alliances can help to place communities in a position to engage in dialogue with the government and mining companies about the projects, and may be crucial in facilitating the capacity of communities to thoroughly frame and assert their rights and interests.[215] For isolated communities with low literacy levels and scarce access to formal education—and in the absence of dense linkages and trust within such networks—there is a very real risk that CAO compliance assessments could operate as spaces through which processes of exclusion are reproduced and legitimated. This risk appears to be particularly acute in cases involving the earliest phases of mining activity, where levels of community mobilization in response to mining are nascent, and connections with transnational advocacy networks may be weak or non-existent.

V. Conclusion

At the outset of this paper, it was suggested that the involvement of an IFC in a mining project has the potential to disrupt and re-orient the typically vexed relationships that exist between company, state and project-affected communities. This is of particular importance for projects within the IFC's early equity portfolio, where the IFC's governance functions (such as the Environmental and Social Performance Standards) have the potential to embed responsible practices and establish positive company-community relations that endure as the mine matures. However, as the case study of Eurasian Minerals in Haiti has shown, the ability of the IFC to redefine traditional accountability relationships and enhance project outcomes has been significantly limited.

As the IFC's primary institution for bringing about citizen-led accountability, the availability and efficacy of the CAO plays a critical role in allowing citizens' voices to be heard when the IFC's governance functions are failing, and projects are adversely affecting communities' rights and interests. While the CAO is often heralded for its simple complaints submission

procedure, this is not where an analysis of its accessibility should end. Ultimately, the CAO's accessibility must be viewed in light of important contextual factors within project-affected communities, such as nascent stages of community mobilization and linkages (or lack thereof) to transnational advocacy networks which can help to unlock accountability landscapes. The case study in Northern Haiti is an important one, as it demonstrates the CAO's failings with respect to those communities that are most marginalized. As has been shown, while exploration activities were undertaken, those communities had no capacity to know the nature of the project or the IFC's investment, and had no knowledge of the right of recourse to the CAO. Unless the CAO's functions are to remain as sites of continued exclusion, the CAO's outreach activities directly to project-affected communities must be enhanced, and companies should be placed under more onerous obligations to disclose the availability of the CAO as part of their stakeholder engagement plans. While some communities in the early equity context may prefer to eschew the CAO's depoliticized and disciplining processes as inappropriate spaces for asserting contestational grievances, at the very least those communities have the right to make fully informed strategic decisions about their accountability struggles. In the end, the lessons drawn from this case study serve as an earnest call to the IFC and CAO to better understand the deeply contextual nature of the CAO's true accessibility, and to devise solutions to ensure that the most vulnerable project-affected communities are not again overlooked.

Endnotes

1 Int'l Fin. Corp., *Where We Work*, http://www.ifc.org/wps/wcm/connect/corp_ext_content/ifc_external_corporate_site/about+ifc_new/where+we+work/wherewework (last visited Apr. 17, 2017).

2 *See* Kate MacDonald, *The Meaning and Purposes of Transnational Accountability,* 73 Austl. J. Pub. Admin. 426, 433 (2014) (explaining that accountability relationships establish standards for seeking information, justification and responsiveness from whom and about what).

3 World Bank Group, IFC Investment by Industry—Annual Summary, https://finances.worldbank.org/Projects/IFC-Investment-By-Industry-Annual-Summary/59dm-bgyg (last visited Apr. 17, 2017).

4 *See* Int'l Fin. Corp., Oil, Gas & Mining, http://www.ifc.org/wps/wcm/connect/industry_ext_content/ifc_external_corporate_site/industries/oil,+gas+and+mining/mining/miningcontent (last visited Apr. 17, 2017) ("Under our unique Early Equity Program, we support mining projects at the pre-feasibility stage by becoming a shareholder and long-term partner."); *see also* Int'l Fin. Corp., Early Equity for Long-Term Returns, http://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/kiwara_early_equity (last visited Apr. 17, 2017) (discussing early equity investments in the mining sector in Sub-Saharan Africa).

5 *See* Early Equity for Long-Term Returns, *supra* note 5.

6 *See* Int'l Fin. Corp., Project Information Portal: Eurasian Minerals Inc., https://disclosures.ifc.org/#/projectDetail/SPI/27409 (last visited Apr. 17, 2017).

7 *See* Int'l Fin. Corp., Sustainability Framework, http://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_site/Sustainability+and+Disclosure/Environmental-Social-Governance/Sustainability+Framework (last visited Apr. 17, 2017) ("The 2012 edition of IFC's Sustainability Framework applies to all investment and advisory clients whose projects go through IFC's initial credit review process after Jan. 1, 2012.").

8 *See id.*

9 *See* David Hunter, *International Law and Public Participation in Policy-Making at the International Financial Institutions*, *in* International Financial Institutions and International Law 199, 206 (Daniel D. Bradlow & David B. Hunter eds., 2010) (explaining that the IFC Performance Standards have an external governance function beyond the IFC's clients, in that they form the basis of the Equator Principles—to which 86 private lending institutions have also committed—covering over 70 percent of international project finance debt in emerging markets).

10 Office of the Compliance Advisor/Ombudsman (CAO), Terms of Reference 2, http://www.cao-ombudsman.org/about/whoweare/documents/TOR_CAO.pdf (last visited Apr. 17, 2017).

11 *See* Samantha Balaton-Chrimes & Fiona Haines, *The Depoliticisation of Accountability Processes for Land-Based Grievances, and the IFC CAO*, 6 Global Pol'y 446, 447 (2015) ("Following the 1992 Earth Summit in Rio de Janeiro . . .'citizen-driven accountability for sustainable development' became the norm.").

12 *See* Kristen Lewis, Citizen-Driven Accountability for Sustainable Development 1 (2012), https://www.opic.gov/sites/default/files/files/citizen-driven-accountibility.pdf (explaining that the Inspection Panel, as the first IAM, was crucial "in giving citizens a right to recourse" and "was an innovation in both global governance and international law, broadening the concept of accountability and creating a first ever formal avenue for people themselves to challenge the decisions of international institutions and seek redress for harm done").

13 World Bank Inspection Panel, How to File a Request for inspection to the World Bank Inspection Panel: General Guidelines, http://ewebapps.worldbank.org/apps/ip/Documents/Guidelines_How%20to%20File_for_web.pdf (last visited Apr. 3, 2017); *accord* Linda C. Reif, The Ombudsman, Good Governance and the International Human Rights System 349 (2004).

14 *See* Lewis, *supra* note 13, at 3, 6 (stating that the World Bank itself notes that "IAMs are in many ways 'children' of the 1992 Earth Summit—products of a range of social, political, and institutional forces that came to a head in Rio and changed, in fundamental and beneficial ways, development practice"); *see also* U.N. Conference on Environment and Development, *Rio Declaration on Environment and Development*, U.N. Doc. A/CONF.151/26/Rev.1 (Vol. I), annex I (Aug. 12, 1992) (calling for the right of citizens to participate in the development process and access information, as well as to be provided with "[e]ffective access to judicial and administrative proceedings, including redress and remedy . . . .").

15 *See* Benjamin M. Saper, Note, *The International Finance Corporation's Compliance Advisor/Ombudsman (CAO): An Examination of Accountability and Effectiveness from a Global Administrative Law Perspective*, 44 N.Y.U. J. Int'l L. & Pol. 1279, 1322 (2012); *see also* Eusike Suzuki & Suresh Nanwani, *Responsibility of International Organizations: The Accountability Mechanisms of Multilateral Development Banks,* 27 Mich. J. Int'l L. 177, 206 (2006) (noting that "the absence of access to effective remedies stemming from an [international organization's] immunity from local jurisdiction is the essential reason for the establishment of the [IAMs]").

16 *See* Carol M. Mates, *Project Finance in Emerging Markets—The Role of the International Finance Corporation*, 18 Transnat'l Law. 165, 166-67 (2004).

17 *See id.*

18 U.N. Envtl. Programme, Pangue Dam—The International Finance Corporation (IFC) and the Office of the Compliance Advisor Ombudsman (CAO) (2006), http://new.unep.org/dams/documents/ell.asp?story_id=134.

19 *See id.* (noting that the World Bank Inspection Panel has jurisdiction only over IBRD and IDA).

20 *See* Adebola Adeyemi, *Changing the Face of Sustainable Development in Developing Countries: The Role of the International Finance Corporation*, 16 Envt'l. L. Rev. 91, 96 (2014); *see also* Saper, *supra* note 16, at 1289 (explaining that MIGA provides guarantees to private investors in developing countries

continued on page 44

Benefitting from Sustainable Development

*Victoria Frappaolo**

As the world continues to strive to achieve sustainable development, U.S. states must continue to adopt laws that govern benefit corporations. A benefit corporation "is a new corporate entity that requires directors to take social and environmental considerations into account when making corporate decisions."[1] It has been suggested that the benefit corporation structure will appeal to larger corporations who will see it as a way to protect the organization's social mission.[2] There are also many smaller for-profit organizations that have adopted this structure.[3] Regardless of the size, this corporate entity has found favor among institutional investors who have a growing interest to invest in companies that have an environmental and social impact.[4]

The International Institute for Sustainable Development (IISD) defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[5] This contrasts with many for-profit corporations in that unlike nonprofit corporations that are driven by a mission, as their name suggests, for-profits are driven by profit. Thus, a disparate relationship exists between companies wanting to do make decisions that allow them to maximize profits while ensuring that these decisions do not impact sustainable development.[6] Benefit corporations provide companies with an incentive to find ways to use mechanisms that allow for sustainable development while still maximizing profit, thus achieving this dual mission.[7]

Laws for incorporating and managing benefit corporations will provide socially focused companies and entrepreneurs the tools they need to make the environmental and social issues a primary focus of an organization.[8] When states provide a legal structure for U.S. entities to incorporate a benefit corporation under, they are creating a corporate structure that has a reporting requirement, which includes a review and summary of the organization's environmental and social performance.[9] These reporting requirements are dependent on the state where the benefit corporation is incorporated.[10] Outside organizations, such as B Lab, a nonprofit that works with companies and people whose businesses act as a "force for good,"[11] have created a best practice for benefit reporting.[12]

Thus far, thirty-one states have passed laws that provide a legal framework for businesses to become benefit corporations.[13] Of the nineteen states that do not provide laws for forming a benefit corporation, eight are currently working on passing legislation.[14] To ensure that all businesses throughout the U.S. are encouraged to adopt practices that help guarantee sustainable development, the nineteen states that have yet to adopt laws which allow organizations to incorporate as benefit corporations should do so immediately.[15]

It is necessary for every state to adopt a legal structure for benefit corporations because this corporate structure encourages businesses to take sustainable development into account.[16] Businesses incorporated in states without these laws do not have the same level of incentive or guidance on how to ensure that they consider sustainable development.[17] Benefit corporations provide businesses with an "increased legal protection, accountability, and transparency around its mission" and require companies to produce an annual benefit report, which increases access to private investment capital.[18] Although one may say that there is no rush because thirty-one states have already adopted legislation, corporations that are incorporated in the other nineteen states are not provided with the opportunity to be at the forefront of this growing movement.[19]

If every state in the U.S. adopts laws supporting benefit corporations, sustainable development would be fostered throughout the U.S. This will also provide other countries considering adopting laws regarding benefit corporations' examples of ways they may develop their legal framework. In addition, U.S. laws will demonstrate to other countries that these laws allow for companies from their countries to be at a competitive advantage. Once laws are adopted throughout the U.S. and the world, companies will not only be competing for a greater profit, but also keeping sustainable development at its forefront.

* Victoria Frappaolo is a JD/MA candidate at American University Washington College of Law. She is pursuing her master's in Social Enterprise from American University's School of International Service. She is currently a law clerk at Klamp & Associates, P.C.

Endnotes

1 Elizabeth Schmidt, Nonprofit Law 539 (Wolters Kluwer Law & Business, 1st ed. 2011).

2 *See id.*

3 *Find a Benefit Corp* Benefit Corp. http://benefitcorp.net/businesses/find-a-benefit-corp (last visited Mar. 14, 2017).

4 *Why do Investors Like Benefit Corporations,* Benefit Corp., http://benefitcorp.net/investors/who-investing-benefit-corps (last visited Mar. 14, 2017).

5 *Sustainable Development,* Int'l Inst. for Sustainable Dev., http://www.iisd.org/topic/sustainable-development (last visited Mar. 26, 2017).

6 Dana B. Reiser, Note, *Benefit Corporations: A Sustainable Form of Organization?* 11 Wake Forest L. Rev. 591, (2011).

7 *Id.* at 592.

8 *What is a Benefit Corporation?,* Benefit Corp., http://benefitcorp.net/businesses (last visited Mar. 14, 2017).

9 *Id.*

10 *Id.*

11 *About B Lab,* Certified B Corp., https://www.bcorporation.net/what-are-b-corps/about-b-lab (last visited Mar., 26 2017).

12 *See* Benefit Corp., *supra* note 8.

13 *State by State Status of Legislation,* Benefit Corp., http://benefitcorp.net/policymakers/state-by-state-status (last visited Mar. 14, 2017).

14 *Id.*

15 *See id.*

16 *Why is a Benefit Corp Right for Me?* Benefit Corporation, http://benefitcorp.net/businesses/why-become-benefit-corp (last visited March 26, 2017).

17 *See id.*

18 *See id.*

19 *See id.*

Small Sustainability Supply: How Small Business and Lean Manufacturing can Change Supply Chains

*Carlos Lopez**

Raw material sustainability might act as a catalyst for green development throughout product creation, because the supply created by these firms would influence technology and demand trends. Sustainability raises key issues in establishing business practices across supply chains. Small businesses might address these issues by initiating green business practices at the beginning of the chain. Corporate action usually directs the supply chain by interpreting the demands and expectations of end consumers. Corporate firms are closer to consumers and understand the nuances of product demand, thus having the background to understand what materials to introduce for market success. For firms further along the supply chain, raw material suppliers can act as trendsetters. This feature will argue that small business can provide versatility in raw material supply and business management that deserves the attention of policy makers and green development strategists.

Firms evaluate new products based on demand predictions, development viability, and fiscal impact.[1] The product idea is proposed, after which the concept and corresponding marketing is fine-tuned. The firm analyzes and develops a proposed product, prior to testing marketability.[2] During this process, product ideas are judged based on potential success. In developing the concept, firms consider how consumers will react to the product and its presented benefits.[3] While this process is more apparent in the corporate-consumer relationship, the raw supplier-corporate dynamic also features this tension.

Additionally, small business practices facilitate supply chain sustainability. When a corporate firm creates a new product, it becomes the consumer for material suppliers. Now, the suppliers must consider the corporate entity as an end consumer. Due to a small scale and managerial flexibility, small businesses approach product development with a more even spread of resources. When a small size supplier considers a new product for corporate firms, it should focus on helping the firm become more sustainable and eco-friendly. This environmentally conscious focus will likely please consumers concerned about the biosphere or anxious for low-involvement participation in sustainability.

Supplementing the above market factors, the Environmental Protection Agency has outlined several approaches to chain sustainability as part of its Lean Practices initiative.[4] These approaches require firm flexibility and ease of response to demand. The original streamlining model is the Toyota Production System. Beginning in the 1940s, Toyota developed a management philosophy that has since influenced manufacturing and business efficiency in the form of lean manufacturing.[5] Lean manufacturing focuses on the elimination of waste in its various manifestations. This waste can either be related to process inconsistencies and overburden, or excessive production. Thus, a manufacturer achieves maximum production potential by constantly striving to reduce these forms of waste.[6] This attention to detail creates comprehensive quality standards, which aim to benefit the product at every step.

Implementing this mentality, firms most effectively reduce waste by analyzing product design processes and implementation. Special focus should be directed towards processes involving both humans and automation because these processes are prone to inefficiencies.[7] Automation should be implemented with enhancing human process in mind. Key practices include tailoring output to actual, real time demand, quickly identifying waste, and continuing process improvement.[8]

Waste emerges in the form of production techniques or product design, especially product composition. Firms can identify what materials will be efficient for the end chain product design, minimal costs, process efficiencies, and environmental impact. A small business may address the demands of corporate firms and proceed to exceed the sustainability required by these demands.[9] As the corporate sustainability climate shifts, small business will have a unique adaptability for addressing these niche needs because they can effectively research and manage quick overhaul.

Thus, small business has a special versatility that accommodates lean manufacturing. The scale of these businesses allows for processes to be streamlined and efficiently analyzed. Managers can more directly interact with employees involved in the targeted processes. This management approach can be used in the generation of any product, but becomes a natural supplement to the production of sustainable and green products. A business does not even have to prioritize environmental efficiency to achieve sustainability, only firm efficiency.[10]

Finally, small business also receives special attention from the federal government. The sector is greatly aided by the Small Business Administration.[11] The SBA offers grant and loan programs, which provide finance for small business endeavors.[12] The Administration also provides resources for smaller entities dealing with a range of economic considerations, offering guidance for multiple industries.[13] Additionally, EPA provides documents focused on environmental compliance for small businesses.[14]

* Carlos Lopez is a 2018 J.D. candidate at American University Washington College of Law. His areas of interest include natural resource management and energy law.

Supply chain sustainability will provide many challenges for future manufacturing. The product development and creation processes will be most affected, as firms look to restructure production to meet emerging market trends and corporate ideology. Lean manufacturing and related practices foster a sense of sustainability, from streamlining production flow to rethinking product composition. Small business will be able to address these expectations and challenges by efficiently incorporating sustainable practices, satisfying emerging corporate sustainability, and utilizing specialized government support. Combined with the attention of policy makers, sustainable supply chains can be built on small business.

Endnotes

[1] *See generally Principles of Marketing: New-Product Development and Product Life-Cycle Strategies*, Ohio Univ. 1, 1-12, (last visited Apr. 9, 2017), www.ohio.edu/people/gupta/MKT202Kotler/Chapter%2009.ppt.

[2] *See generally id.* at 8-12.

[3] *See generally id.*

[4] *See Lean Manufacturing*, Envtl. Protection Agency, (last visited Apr. 1, 2017) https://www.epa.gov/lean/lean-manufacturing-and-environment.

[5] *See Toyota Production System*, Toyota, (Apr. 9, 2017) http://www.toyota-global.com/company/vision_philosophy/toyota_production_system/; *see also Lean Thinking and Methods—Introduction*, Envtl. Protection Agency, (last visited Apr. 1, 2017), https://www.epa.gov/lean/lean-thinking-and-methods-introduction.

[6] *See* Toyota, *supra* note 5.

[7] See *id.*

[8] *See id.*

[9] *See, e.g., Lean—Genera l Motors Corporation*, Envtl. Protection Agency, (last visited Apr. 9, 2017) https://www.epa.gov/lean/general-motors-corporation.

[10] *See, e.g., Lean—Goodrich Corporation*, Envtl. Protection Agency, (last visited Apr. 19, 2017) https://www.epa.gov/lean/goodrich-corporation (mentioning that Goodrich had not considered environmental factors when it streamlined its manufacturing at Chula Vista, reducing its facility from five buildings to two and doubling output).

[11] *See Small Business Act*, 15 U.S.C. §§ 631, 633 (describing the promotion of small business interests as a national concern and empowering the Small Business Administration to oversee the execution of the Act).

[12] *See Loans and Grants*, Small Bus. Admin., (last visited Apr. 9, 2017) https://www.sba.gov/loans-grants/see-what-sba-offers.

[13] *See Learn about Business Laws*, Small Bus. Admin., (last visited Apr. 9, 2017) https://www.sba.gov/starting-business/learn-about-business-laws; *see also Business Guides By Industry*; Small Bus. Admin., (last visited Apr. 9, 2017) https://www.sba.gov/managing-business/business-guides-industry.

[14] *See Environmental Knowledgebase: How Can a Small Business Owner Get Help Understanding Requirements and Regulations?,* Envtl. Protection Agency, (last visited Apr. 9, 2017) https://publicaccess.zendesk.com/hc/en-us/articles/211395518-How-can-a-small-business-owner-get-help-understanding-requirements-and-regulations-.

Batteries Included: Incentivizing Energy Storage

*Lindsay Breslau, Michael Croweak, & Alan Witt**

Abstract

Distributed Energy Storage ("DES") technologies that allow households and businesses to store substantial amounts of electricity on site are rapidly advancing and could soon have dramatic impacts on the nation's electricity generation, transmission, and distribution markets. These technologies could provide numerous benefits, including enhanced energy security, grid stability, and greater support for renewable generation technologies, but several obstacles are slowing their adoption throughout the country. Among these obstacles are stubbornly high manufacturing costs and the potential impacts of DES development on utilities and the traditional energy regulatory framework. Fortunately, policymakers in California, New York, Hawaii, and some other states are beginning to proactively address these challenges through an innovative array of programs, consortiums, partnerships, and regulations designed to incentivize more widespread adoption of DES systems. This Article explores these states' approaches and offers suggestions for improving upon them to better incentivize DES development and clear the way for these important technologies to revolutionize electricity generation and distribution in the twenty-first century.

Introduction

Someday, in the not-too-distant future, household distributed energy storage ("DES") units may be as common in American homes as water heaters or washing machines. Homeowners will use these devices to store electricity that they purchase from the electric grid or generate from their own rooftop solar panels. During times of day when electricity demand is high and per-kilowatt-hour prices are elevated, such as in the evening when many utility customers are at home cooking dinner, those with DES systems will use energy stored on these systems rather than buying it from the grid. To encourage this practice, utilities will implement time-of-use pricing structures that more closely correlate the price of grid-supplied electricity to its true real-time cost based on supply and demand. Utilities may likewise allow customers to sell energy stored on their DES units back to the grid at different rates based on the time of day. When storms knock out power lines, the electricity stored in DES units will help to keep lights on and refrigerators running until full electricity service is restored.

Obviously, several advancements in technology and policy must occur and numerous obstacles must be overcome before this futuristic vision of DES can become reality. So what can policymakers do now to help accelerate the transition toward more distributed storage of electric power? This Article explores this complicated question and argues that many of the policy strategies that have successfully driven the impressive expansion of rooftop solar energy markets in recent years could serve a similar function in promoting the growth of DES. Part I of this Article provides background information on DES and its potential applications within businesses and homes. Part I also highlights some shortcomings of the existing United States electricity distribution system and describes how DES could help to address these shortcomings and provide additional economic and other benefits. Part II describes several current impediments to the widespread deployment of DES, including unit manufacturing costs, utility opposition, consumer reluctance, and environmental concerns. Part III examines recently-adopted policy strategies in New York, California, and Hawaii aimed at increasing the market penetration of DES and suggests that valuable lessons can be learned from these states and certain other countries' experiences in promoting new energy technologies. Part IV then offers specific policy proposals for hastening the development and deployment of DES in the coming years.

I. The Potential Power of DES

Energy storage technologies could someday play a critically important role in the United States electricity system. Arguably, no other area innovation has greater potential to make the nation's electricity grid more reliable, flexible, and cost effective. The array of impacts that energy storage, and particularly DES, could have on the nation's electric utilities is awe-inspiring and potentially more transformative than any other energy technology that has emerged in recent decades.

Energy storage technologies on a variety of scales can offer substantial value both on and off the grid.[1] For instance, companies are already beginning to build large scale energy storage projects with the goal of addressing grid-related problems. California's Tehachapi Wind Energy Storage Project, paid for by Southern California Edison Company and federal stimulus funds, features 32MWh of lithium-ion battery energy storage specifically designed to stabilize the grid and integrate renewables with the grid, among other objectives.[2]

DES products with higher capacities than home DES units but less storage capacities than utility-scale energy storage

* All three authors were Sustainability Law Student Research Fellows within the Program on Law and Sustainability at Arizona State University's Sandra Day O'Connor College of Law. This Article was researched and written under the supervision and guidance of Professor Troy A. Rule as part of the Sandra Day O'Connor College of Law's Sustainability Law Research Clusters project. The authors wish to thank other students working within the Clusters project for their invaluable input on early stages of this Article.

projects also have great potential as components of micro-grid systems. Micro-grids are comparatively small, self-sustained energy grids that have independent means of generation and transmission.[3] Energy systems on a growing number of military bases and university campuses make use of micro-grid technologies.[4] Micro-grids do not need to be connected to the larger grid system. Communities that install a micro-grid might plausibly be able to go "off-grid"—or disconnect from the larger national grid system—if they generate enough electricity to meet their energy needs. On the other hand, maintaining a connection to the grid might nonetheless be desirable for such communities to provide an additional source of back-up power for emergency situations. Regardless, as photovoltaic solar and other renewable energy technologies become more cost-effective, micro-grids may begin to make more and more sense for geographically remote communities.

Although the potential applications of utility-scale and community-scale energy storage are substantial, this Article focuses on smaller-scale, DES technologies. In contrast to utility-owned energy storage systems ("Centralized Energy Storage"), DES units are installed and operated in individual homes, businesses, and industrial sites. Owners of DES units can choose to integrate them with renewables such as rooftop solar or can use them in conjunction with traditional power sources delivered through the electric grid. When combined with a rooftop solar panel system, a DES unit allows a homeowner to store excess energy produced during the day for use at night or any other time that the home's energy demands exceed its supply. And DES systems could be a cost-justifiable investment even for homeowners without rooftop solar if their electric utility offers a progressive time-of-use pricing plan[5] and storage net metering[6] program. Homeowners under such plans and programs could potentially purchase electricity from the grid when the price is low and store it on the home's DES unit for use or resale later when the electricity price is high.

Many businesses are also beginning to install DES to help meet their electricity needs and reduce their operating costs. For example, Target has announced plans to install Tesla's 100kW battery block, known as the Powerpack, in some of its stores instead of a generator to better meet its energy needs.[7] Likewise, the wine producer Jackson Family Wines plans to use Powerpacks to store energy for use during periods of the wine-making process that require a higher amount of energy.[8] Like homeowners, business owners can also use DES in combination with rooftop solar panels or as a way to draw energy from the grid and store it for when their energy needs spike.

A. Legacy Grids and Their Shortcomings

The physical infrastructure of the United States electricity system of "legacy" grids is traditionally viewed as serving three main functions: generation, transmission, and distribution.[9] The majority of the nation's electricity generation occurs at power plants that use fossil fuels, such as coal and natural gas.[10] To meet daily and annual fluctuations in consumer demand for electricity, an electricity system operator must decide which power plants to run at a given time.[11] Legacy grids currently do not handle these fluctuations in demand very efficiently. The introduction of renewable energy generation to legacy grids only frustrates the efforts to accommodate changes in demand.

1. Basic Features of Legacy Power Grids

The nation's legacy electric grids utilize different types of electricity generation facilities, also known as power plants, to meet the public's changing demand for electricity. Power plants fit into four main categories for purposes of grid load management.[12] Each category serves a specific purpose and has both benefits and drawbacks. Baseload plants have low fuel costs but cannot be turned on and off quickly.[13] Variable "must run" plants, including wind and solar energy systems, tend to involve lower marginal costs of production, but wind and solar plants can only operate during times that renewable resources are readily available.[14] Intermediate load plants, usually old coal plants, are more expensive to operate.[15] Although peaking plants have high operating costs, they can be taken on and offline quickly.[16] They are typically natural gas or diesel plants.[17]

The transmission system consists of power lines that transport electricity from generating plants to consumers.[18] These high-voltage lines must maintain a voltage within certain narrow limits to meet customer demand without overstraining the grid system.[19] To keep the voltage within these limits, the system operator relies on "spinning reserve" and "operating reserve" to add electricity to the grid quickly when it is needed.[20] "Spinning reserve" refers to generating plants that are being run and are ready to be switched onto the network immediately.[21] Operating reserve plants generally can be brought on or off the network within about ten minutes.[22]

Electricity distribution systems consist of substations, poles, wires, and underground lines that deliver electricity from high-voltage transmission infrastructure to retail customers.[23] Substations within these systems reduce the voltage of power coming from transmission lines so that it can travel along lower-voltage lines into homes and businesses.[24] An entity that operates an electricity distribution system typically has a duty to serve all customers in its service area.[25]

2. Shortcomings of Legacy Grids

Although legacy grids have served the nation well for a long time, they suffer from several major shortcomings. First, for these grids to function properly, the grid operator must maintain a strict balance between energy supply and consumer demand.[26] This delicate balancing act requires that the grid quickly respond to changes in demand as well as to problems caused by equipment failure.[27] Since legacy grids do not have an easy way to store energy, changes in demand must be addressed by increasing or decreasing energy generation almost instantaneously.[28] Legacy grids presently handle this problem by relying on peaking plants, spinning reserve, and operating reserve. Spinning reserve[29] and operating reserve are inefficient because they generate power that is wasted until it is needed to meet an increase in demand on the grid.

A second shortcoming of legacy grids is that their current design requires that they be capable of supplying a quantity of

electricity through the grid equal to the greatest amount of energy that the system's consumers ever demand at any one time.[30] In other words, this "peak load" requirement necessitates that the grid be built to accommodate a level of electricity demand that it only rarely actually experiences. Peaking plants run during these periods of highest demand.[31] While the adaptive capacity of peaking plants makes them valuable tools for system operators, they are costly to operate and discharge more pollution than base-load plants.[32] Peaking plants are one of the most inefficient parts of the legacy grid but are currently a necessary part of the legacy grid and a critical means for it to meet the public's peak demand for energy.[33]

Lastly, "must run" generating facilities, including some that use renewable energy, create additional challenges for legacy grids. As renewable energy technologies improve, more and more utilities are supplementing their fossil-fuel fired generation facilities with renewable generation facilities such as wind farms and utility-scale solar energy plants.[34] Renewable energy generation facilities can exacerbate grid operators' challenge of balancing supply and demand because of their intermittent nature.[35] Unlike fossil fuel plants, which can be turned on and off, wind and solar energy facilities are considered "must-run" technologies whose outputs are controlled by forces of nature rather than grid operators. This can create problems because renewable energy systems continue producing energy regardless of whether there is demand for it.[36]

B. How DES Can Benefit Legacy Grids

The potential benefits of widespread DES implementation for power generation and distribution are tremendous. DES has the potential to address many of the current shortcomings of legacy grids. It can make them better equipped to handle peaks and dips in electricity demand. For consumers, DES can provide increased energy security during storms and other threats to legacy grids. From an economic standpoint, there are likewise many potential benefits for the United States as a whole if the nation were to become a world leader in the DES industry.

1. How DES Can Make Grids More Efficient

The implementation of DES can address the major supply and demand issues that grid operators currently face. Among other things, DES can make it easier for grid operators to balance supply and demand, thereby reducing utilities' reliance on spinning reserve, operating reserve, and peaking plants. As described above, energy storage technologies have the capacity to store excess power when grid supply exceeds demand and then send that energy back onto the grid later in a very short response period.[37] Some utility-scale energy storage facilities already store energy generated by baseload plants and discharge that energy when it is needed.[38] If DES systems were more widely used and coupled with technologies such as net metering and smart meters, grid operators could draw stored energy from customers' DES units to achieve similar effects.

DES also has the ability to smooth consumer demand for electric power. Rather than relying solely on electricity bought from the grid in real time, consumers with DES systems can draw from their own stored electricity when it is needed. In particular, this practice could help grid operators during times of peak energy use by shaving off the peak of the demand curve. Ideally, after enough customers install DES, peak demand will be so reduced that utilities will no longer need to build and operate as many peaking plants. And by enabling grid operators to better adapt to real-time fluctuations in supply and demand and by smoothing consumer demand for power, DES systems could make it easier to incorporate must-run renewable energy generating facilities to the grid.

2. How DES Can Enhance Energy Security

More widespread use of DES could additionally improve energy security by better protecting electricity customers against storms and other episodic threats to grid infrastructure. If a transmission line or some other important element of grid infrastructure suffers substantial damage, many customers downstream of it can be left without electricity until the infrastructure is repaired. Utility-scale energy storage only helps address this problem if the infrastructure damage occurs between the generation facility and the energy storage facility. If the damage occurs downstream of it, however, customers can still be affected. DES can offer a more reliable protection against these situations, providing precious power while neighbors suffer from blackouts or brownouts.

In a broader sense, these additional benefits of widespread use of DES could improve communities' resiliency and ability to aid recovery in the wake of natural disasters. In recent years, huge storms have caused substantial power outages and left large numbers of households and businesses without power for extended periods of time. For example, after Hurricane Katrina hit the Gulf Coast on August 29, 2005, over one million people were left without power.[39] Superstorm Sandy left 8.5 million people without electricity service[40] and prompted a surge in home generator sales in the months that followed.[41]

Someday, DES could be a key component of storm and emergency planning. Homes and businesses with installed DES systems have a source of back-up power to use during power outages. When a powerful storm threatens a community, those citizens with DES units could anticipate the need for excess energy and charge their DES units with energy from the grid. Then, if the power goes out, energy from the DES units could serve critical electricity needs until damage to the grid is repaired.

3. How DES Can Spur Economic Growth in the United States

The United States economy could also benefit if the nation becomes a leader in the development of DES technologies. Businesses in the United States would not need to rely on imports of storage units, and the United States could even put itself in the position of exporting such technologies. States could similarly boost their economies if they became leaders in this emerging industry.

Germany provides a good example of a country that strategically used policies and regulations to become a leader in an emerging renewable energy technology. The policy regime that Germany put in place to govern and incentivize the development

of wind energy has been so successful as to render Germany "a world leader in renewable energy development."[42] Germany's policies created a stable market for wind energy that gave investors the confidence required for rapid investment and development.[43] This in turn resulted in a highly competitive market. As a direct result of the stable marketplace that Germany was able to create, Germany is among the top exporters of wind turbines in the world.[44]

Because the United States already has the lead in the DES industry,[45] the creation of a stable market for batteries through policy should be a high priority. By adopting a regulatory scheme that incentivizes DES and creates a stable market for it, the United States can cement its position as a top worldwide manufacturer of DES units. Among other things, this would be a boon for job creation and potentially allow the United States to become an exporter of DES technology. The United States has already demonstrated its desire to become a world leader in clean energy,[46] and the establishment of a strong DES industry supports that goal.

II. Obstacles to the Widespread Adoption of DES

DES technology has tremendous potential to fix the shortcomings of the nation's legacy grid system, increase energy security, and give the United States a lead role in an important emerging industry. One company in the United States has already introduced DES units to the market,[47] and several more companies are working to get their DES products ready for consumers.[48]So what is the problem? Why incentivize DES if so many, including utilities and consumers,[49] are already on board?

There are several reasons why strengthening incentives for electricity users to invest in DES seems like a justifiable policy strategy. First, DES is an emerging technology that has not yet fully realized economies of scale capable of substantially reducing per-unit manufacturing costs.[50] Secondly, citizens generally must pay high up-front costs to purchase and install DES units and are unlikely to earn a positive return on that investment for several years.[51] Third, utilities are increasingly resistant to policies that promote distributed electricity generation, and this opposition could similarly stall the growth of DES. Lastly, the manufacture and disposal of DES units can create environmental harms and the magnitude of those harms my increase and become substantial as DES technologies become increasingly common.[52]

A. High Manufacturing Costs

Because the energy storage industry is new and has not yet achieved an economy of scale, its manufacturing costs are still relatively high. Although public and private research on energy storage has been conducted for decades,[53] only recently has there been signs that the energy storage industry is ready to take off.[54] Manufacturing costs remain the greatest barrier to getting this fledgling industry fully off the ground.[55] Growth in DES has been particularly slow. Out of the $128 million in battery storage installed in 2014, only 1% of the storage capacity was installed in homes.[56] Moreover, many DES technologies are emerging technologies that are still in their early development stages.[57]

In order to drive down the price of DES units for customers, development and manufacturing costs must be decreased. According to one prominent researcher, prices for home batteries will need to drop 75% in order for DES to become widely adopted.[58] Once DES reaches an economy of scale, the price for DES units will naturally drop. In the interim, however, policies that provide a financial incentive to the industry will need to be put in place. These policies will need to specifically include DES and not just provide incentives for energy storage generally.

B. Consumer Budgetary Constraints

The high manufacturing costs for DES units result in products that are still prohibitively expensive for many consumers. A property owner must make up-front payments to purchase and install a DES unit. While the price point for home-level DES units is falling, it is still much higher than would be sensible for an average household's purchase.[59] For example, the Tesla Powerwall, a battery for residential energy storage, costs $5,500 for the 14 kWh model.[60] A consumer who wants a DES unit may rationally decide to delay purchasing one until prices come down. It would be many years before a homeowner could recoup such an investment through savings on the electricity bill alone. Additionally, a homeowner who does not also have distributed energy generation will not save money on the electricity bill if he or she pays a flat rate for electricity.[61]

C. Utility Opposition

Some utilities fear that the widespread introduction of Distributed Renewable Generation ("DRG") and DES will complicate their role in maintaining the grid and decrease their revenues.[62] When customers install DRG and DES, utilities lose revenue as those customers buy less energy from the grid. However, utilities must still make investments in grid infrastructure.[63] Therefore some utilities argue that customers who utilize DRG but remain connected to the grid for a secure source of backup power do not pay their fair share of the grid's infrastructure costs, which inequitably shifts costs to non-DRG users.[64] In other words, utilities argue that those customers who can generate and store their own energy unfairly shift the costs of grid maintenance to those who rely wholly on energy from the grid.

Utilities' resistance is complicated by the fact that DES is emerging side by side with another technology, distributed renewable generation ("DRG"). Unlike the automobile, which largely displaced the older system for transportation and technology like tramcars,[65] DES and DRG augment, rather than replace legacy grids. However, many utilities have proven to be resistant to DRG introduction.[66] These policies also have the potential to slow the adoption of DES.

Utilities also harbor existential concerns related to DRG and DES reducing their revenue. As customers install DRG, particularly rooftop solar panels, they generate their own energy and thus purchase less electricity from the grid. However, these customers remain connected to the grid and still benefit from this connection when they purchase power at night. Because utilities pay for the installation and maintenance costs of grid infrastructure through a charge incorporated into the price

per kWh of energy they sell[67], utility companies argue that customers who have DRG do not pay their fair share of grid maintenance costs[68]. As solar panels and other DRG become more prevalent, utilities will have an increasingly difficult time affording the maintenance of the grid, and may fail to operate profitably. DES further exacerbates this situation, as homes with both DRG and DES may be able to generate and store enough electricity to meet all of their energy needs without purchasing anything from the grid.

Many utilities have already enacted or proposed policies to discourage the adoption of DRG. If these policies achieve their goal of discouraging DRG, they will also hinder the adoption of DES. In Arizona, the Arizona Public Service Co. ("APS") attempted to increase its monthly fee for customers who have rooftop solar panels from about five dollars to about twenty-one dollars.[69] The backlash against the proposal was so strong that APS ultimately decided to withdraw its request for the fee increase. However, APS asked the Arizona Corporation Commission to study the costs of serving solar users[70] and is expected to bring a new rate case in June 2016.[71]

Utilities have also demonstrated opposition to the implementation of net metering.[72] In Nevada, the Public Utilities Commission recently voted to increase the service fee for solar users in one utility's service area and to decrease the amount of credit that customers in that area can receive from net metering.[73] These changes were met with huge opposition. Two large companies that install rooftop solar decided to pull their businesses out of Nevada, causing at least 650 people to lose their jobs,[74] and solar advocates have filed a lawsuit against NV Energy for violating the Nevada's fair trade statutes and engaging in consumer fraud, negligence and unjust enrichment.[75] While the commission and NV Energy argue that solar customers unfairly shift costs for infrastructure maintenance to non-solar customers, the solar industry contends that the commission should consider the benefits of solar.[76] The opposition to the changes culminated in referendum proposed by a solar group that would change the language in Nevada's statutes so that the changes would become illegal.[77]

D. Concerns about Environmental Impacts

Another obstacle to incentivizing DES may be its potentially harmful impacts on the environment.[78] As these potential harms become more apparent, stakeholders are less likely to support DES development, especially given the appeal of DES as an eco-friendly technology.[79] By identifying these potentially harmful impacts early, governments can better prevent the harm and resolve environmental concerns.

Potentially harmful environmental impacts of DES may include issues with the storage technology's manufacture and disposal.[80] DES disposal practices can harm the environment when technologies are discarded in landfills instead of recycled. Because mining is often cheaper than recycling, producers are less likely to back recycling efforts.[81] A recent study indicated that particles released by a compound rapidly being incorporated into lithium batteries may harm natural bioremediation organisms that break down and clean up pollution.[82] Accordingly, researchers have stressed the importance of keeping discarded lithium ion batteries out of landfills, where they can leak toxic materials and contaminate the environment.[83]

III. Existing Policy Strategies for Incentivizing DES

Several state and local entities have already created successful policies to incentivize energy storage. In fact, the energy storage market grew by 185% in 2015, from $134 million in 2014 to $381 million in 2015.[84] By 2020, energy storage is projected to be a $2 billion dollar market.[85] This growth is attributed to have "come largely from a few states and a few big trends" like California, New York, and Hawaii.[86] This Section will provide an overview of several policies that have been used to incentivize energy storage.

A. State and Local DES Incentive Programs

The following case studies provide examples of how states and utilities can use ex ante regulation to incentivize consumer adoption of DES. California, New York, and Hawaii, motivated to meet their Renewable Portfolio Standards and address concerns about grid reliability, have all enacted sweeping policies for energy storage.[87] Vermont utility Green Mountain Power became the first utility to offer DES directly to its customers when it entered a partnership with Tesla to sell or rent DES batteries.[88] Though the *ex ante* regulations and policies in each case study are unique, they are all helpful examples of methods that can be used to successfully address the barriers hindering the emergence of DES.

1. California's Incentive Program

California's Self Generation Incentive Program ("SGIP") is one of the oldest and better developed distributed generation programs in the United States.[89] It was established in 2001 to incentivize, by payments to SGIP participants, new distributed generation, which could save transmission and distribution infrastructure costs for utilities that could in turn be passed on to ratepayers.[90] In 2009, as part of its effort to meet greenhouse gas reduction goals, the California Energy Commission and Air Resources Board expanded the SGIP to include energy storage technology as part of its incentive program.[91] Under the emerging technologies category, the SGIP provides advanced energy storage with a $1.46/W incentive.[92] This means that, based on a portion of generation from a project's on-site load, participants using advanced energy storage can be entitled to up-front and performance-based incentives ("PBI").[93] The program is available to customers of specific utilities.[94] After implementation of the program, SGIP saw a dramatic increase in the number of DES applications received.[95] California state officials believe that these projects will "deliver benefits through numerous value streams including increased customer reliability, reduced customer demand, reduced peak energy consumption (arbitrage), and balancing of intermittent renewable resources such as solar photovoltaics and wind."[96]

California also established aggressive energy storage procurement targets in order to promote energy storage. In 2010,

the California legislature enacted AB 2514, which instructed the California Public Utilities Commission ("CPUC") to create an energy storage procurement target by 2013.[97] Shortly after the bill's enactment, the CPUC established a procurement target mandating the addition of 50MW of energy storage within Southern California Edison territory to meet the long-term energy needs of the Los Angeles Basin.[98] In 2013, CPUC issued a rule that required the state's public utilities to procure 1,324MW of energy storage in total by 2020.[99]

Regulatory programs like these incentivize both utilities and consumers to implement DES by providing price signals to the market. Consumers are incentivized by the potential to save money on their electricity bills. Consumers are provided PBI, are charged a cheaper rate, and can purchase less energy from the grid. Utilities are incentivized to implement DES to retain and attract customers seeking these benefits from other utilities. A utility's failure to participate would make energy more expensive as consumers relocated their businesses or homes for cheaper and greener energy elsewhere.[100]

2. New York's Energy Storage Consortium

The state of New York has also adopted zealous goals for increasing its use of renewable energy and for becoming a leader in the energy storage movement. New York's "state policies, incentives, and access to private capital" make it "well positioned to develop its clean energy resources and industry market share."[101] In 2010, the state created the New York Battery and Energy Storage (NY-BEST) initiative, a consortium of manufacturers, academic institutions, utilities, materials developers, and other groups that are interested in energy storage technologies.[102] The majority of the consortium members are based in New York.[103] The mission of NY-BEST is to promote growth of the energy storage industry and establish New York State as a leader in the industry.[104] To achieve this mission, NY-BEST plans to facilitate connections amongst stakeholders, speed up the commercialization of energy storage technologies, educate policymakers, and promote New York manufacturers and intellectuals.[105] In 2014, it awarded $1.4 million to several companies that are performing battery storage research and development.[106] NY-BEST also oversees a battery storage test center.[107]

The New York State Energy Research and Development Authority ("NYSERDA") supports the energy storage industry by administering proposals and providing funding for various energy projects.[108] The agency funds projects which address New York state and national energy challenges, including those related to energy storage.[109] NYSERDA also established a Green Bank that connects private funding with renewable energy projects in need of financing.[110] New York's efforts to foster the energy storage industry could potentially provide widespread benefits for customers, utilities, and the state's economy.

3. Hawaii's Clean Energy Program

Hawaii recently adopted ambitious legislation to promote renewable energy that will encourage the use of both rooftop solar and DES. On June 8, 2015, Hawaii Governor David Ige signed a bill that called for the state's electricity sector to transition entirely to renewable energy in 30 years.[111] The governor, a trained electrical engineer, spearheads the program with the cooperation of Hawaii's major utility ("HECO") and U.S. military bases on the islands.[112] The program is fitting for Hawaii because of the state's prolific sunshine and isolation from the U.S. mainland's energy grid. Hawaii cannot import energy from neighbors in the same way that mainland states do. Its geographic isolation has caused an increase in the cost of traditional energy and propelled it to be proactive in pursuing energy self-sufficiency goals. Hawaii's unique conditions make it a prime laboratory for finding cost-effective solutions to legacy energy systems.

Part of Hawaii's cost-effective strategy is a combination of tariff schemes and energy storage implementation. Utilities in Hawaii have recommended two tariffs to cope with the addition of renewables to the grid. The first, known as a Self-Supply tariff, is for customers who want to self-supply their own solar electricity on-site. The Self-Supply tariff limits the amount of electricity these users are allowed to send back to the grid and does not allow users to be compensated for the electricity they send to the grid.[113] However, these customers do become eligible for an expedited review of their self-supplying installation, a process often delayed for months by the utility.[114] The second tariff, known as a Grid-Supply tariff, gives customers a lower retail electricity rate.[115] In addition, customers who choose the Grid-Supply tariff are allowed to send solar generated electricity back to the grid for compensation at the wholesale rate.[116]

An integral part of Hawaii's strategy has been to implement DES. In 2013, Hawaii experienced a boom in distributed energy generation from renewables like solar panels, throwing the grid into chaos as safety was jeopardized and circuits overloaded.[117] To solve this problem, HECO implemented a major utility-run DES scheme. HECO secured the help of DES specialists from California who signed up the utility's customers to install lithium-ion batteries and DES software.[118] Hawaii's new energy policies strike a balance between maintaining the grid and promoting renewables. In addition, by actively promoting DES, Hawaii has helped to resolve both grid security and consumer affordability concerns.

4. A Utility's Private Partnership in Vermont

Another utility that has promoted rather than resisted the addition of DES to its customers' households is Green Mountain Power ("GMP") in Vermont. In 2015, GMP became the first utility to sell DES units directly to its customers. GMP advertises the Tesla Powerwall battery on its website, touting it as "an opportunity to save money by storing energy when it costs less off-peak" as well as a backup energy source that can be used during a blackout.[119] In addition, GMP states that it will use energy from the batteries during peak demand periods in order reduce transmission costs and lower prices for consumers.[120] The utility offers three different payment options. Customers can buy a battery, rent a battery and participate in a utility-shared access program, or buy a battery and participate in a utility shared access program in exchange for a monthly credit on their energy bill.[121]

The shared access options pose a potential win-win situation for a utility and its customers. The utility is allowed to borrow energy from its customers' batteries to meet demand during peak periods, lessening the utility's reliance on peaker plants and long-distance transmission. Customers can receive credit on their monthly electricity bill for electricity stored on their batteries that is used by the utility. The rental option benefits customers who cannot afford to purchase a battery or who are renting their property. GMP's partnership with Tesla, if it is a success, proves that utilities and DES companies share enough common interests to form mutually beneficial relationships and peacefully coexist.

IV. Strengthening Incentives for DES

The right mix of laws and policies could help to accelerate the manufacture and installation of DES so that it becomes widely used and competitive in the market. The following proposed laws and policies for DES will help achieve four general goals. First, they will increase financial support for research, development, and manufacturing of DES technologies so that they can achieve an economy of scale. Second, they will create incentives that increase demand for DES technologies. Third, they will prevent the implementation of policies that aim to slow or prohibit the use of DES. Finally, they will address the environmental harms associated with DES. Some of the policies will take advantage of incentives that are already in place for renewables, and others will introduce new ideas that are specifically tailored to DES' unique role in the energy system.

A. Subsidy Programs

Since its inception, the United States energy industry has been heavily subsidized. Energy subsidies are desirable because of the sector's high up-front capital costs and the significant social benefit that electricity provides. DES is no exception to this pattern of costs and benefits, so it is an attractive candidate for government subsidy.

1. Research and Development Grants

Since energy storage technologies are still in their nascent stages, government funding for research could potentially be a justifiable means of helping these technologies to more rapidly mature and reach markets. The federal government is already significantly funding energy storage technology research that will surely help toward this goal. In the United States Energy Storage Competitiveness Act, Congress allocated about $2.7 billion to the Department of Energy ("DOE") to support research and development of advanced storage technologies.[122] The Act specifically orders the Secretary of the DOE to "conduct a basic research program on energy storage systems to support electric drive vehicles, stationary applications, and electricity transmission and distribution."[123]

Government funding for research on DES technologies could be highly effective in helping to get these consumer-oriented technologies market-ready. One research program, the Joint Center for Energy Storage Research, headquartered at DOE's Argonne National Laboratory has a goal of developing technologies that store five times more energy than current batteries do at a fraction of the cost.[124] At the Laboratory, the Argonne Collaborative Center for Energy Storage Science is working together to do research to solve energy storage problems.[125] Another federal program that is already in place is the Advanced Research Project Agency–Energy (ARPA-E). ARPA-E provides funding for short-term research projects and claims to choose only those projects that have potential to make "transformational impacts."[126] It is critical that Congress continues to provide funding for these and other DOE basic research initiatives until their objectives are met.

Of course, federal research grants have both advantages and drawbacks as a means of incentivizing investments in energy storage innovation. Unlike federal tax credits, which can harness market forces and incentivize private investment, federal programs such as ARPA-E arguably empower federal officials to pick the winners of emerging technologies. This top-down approach could be detrimental if the government picks the wrong winners and does not give viable competing technologies opportunities to develop. Still, so long as they are managed carefully, these programs can have merit as means of driving valuable new technologies.

2. Tax Credits and Rebates

Tax credits and other subsidy programs designed to attract private investment are another important potential means of driving DES innovation and adoption. A relevant example of how federal tax credits were successfully used to promote innovation in a renewable technology is with the wind and solar industry. In order to spur growth in the wind and solar energy sector, the federal government implemented policies to make wind and solar energy projects more financially attractive for private investors. The Obama administration's 2009 American Recovery and Reinvestment Act ("ARRA") created two large tax credits for renewable energy: the Production Tax Credit (PTC) and the Investment Tax Credit (ITC). The PTC provides a per kilowatt-hour tax credit for renewable energy generated at qualified facilities.[127] The ITC gives companies a tax credit for a specific percentage of their investment costs in renewable energy technology.[128] For solar and small wind turbines, the tax credit is 30%.[129] The tax credit "encourages private investment in renewable technologies because it reduces the risk companies face by offsetting their federal taxes by the amount they invest in the emerging technologies."[130] The tax credits were considered to be critical to the growth of the renewable energy industry.[131]

The federal government has created similar tax credits for the energy storage industry. ARRA implemented the Advanced Energy Manufacturing Tax Credit, a 30% investment tax credit, "to support domestic manufacturing of energy storage" technologies.[132] It is important that this tax credit is applied to DES technology and not just large-scale energy storage technology. The tax credit should continue for as long as investment in DES technologies remains risky. If implemented wisely, it could provide critical support to the DES industry, like the ITC and PTC

did for the solar and wind energy industries. State and municipal tax credits and rebates can similarly spur demand for DES.

B. Financing Assistance Programs

Governments can also help to incentivize the installation of DES systems by providing financing assistance through property tax programs or other means. For example, a municipality could conceivably allow qualifying property owners pay either zero or little money up-front for the purchase of a DES unit and then pay for the unit over time through added charges on property tax bills.

Such property tax schemes, which some jurisdictions have used to help promote rooftop solar installations and other clean energy,[133] could help more citizens interested in acquiring DES units to do so. These schemes sometimes include benefits such as 100% financing on qualifying improvements and tax deductible interest.[134] Where these property tax schemes already exist, DES can be explicitly added as a qualifying clean energy technology. Jurisdictions that do not already have these property tax schemes can look to existing programs for guidance in implementing one. The financing can be made available to both residential and commercial properties.

Another way governments can incentivize the installation of DES is through property tax exclusions. The state of California created a property tax exclusion for certain qualifying active solar energy systems.[135] A state could similarly exclude from property tax assessments the value of DES units so that the purchasing a DES unit does not increase a citizen's property tax bill. Although this method does not directly finance the DES unit, it encourages consumers to adopt DES by removing the obstacle of increased property taxes.

Financial assistance for consumers could be a straightforward way to jumpstart adoption of new DES technologies. These programs are especially beneficial at this time because very few people have installed DES units, and many are not even aware of the technology's existence. As more consumers adopt DES and DES prices decrease, these programs can be discontinued or faded out.

C. Utility-Level Policies

Utilities can support the growth of DES by establishing policies and rate structures that benefit the customers who adopt it. Utility policies such as time-of-use pricing and net metering can send price signals to customers that encourage them to install DES.[136] The prohibition of rate structures and fees that negatively impact customers who install DRG and DES will provide certainty for consumers and promote the adoption of these technologies. Ultimately, utilities must embrace, and not fight, these emerging technologies in order for their use to become widespread.

1. Time-of-Use Electricity Pricing

One of the most promising ways that utilities can promote DES unit installations is by making time-of-use power pricing plans available to their customers. Under time-of-use pricing plans, customers pay higher per-kWh electricity rates when overall demand is high and lower rates when demand is low. For example, if demand is usually highest during the evening hours, the utility increases the price of electricity during those hours. Such plans send valuable price signals to customers, encouraging them to change their habits so that they use fewer electrical appliances during high demand hours.

Customers with DES units can benefit significantly under a time-of-use pricing scheme, particularly if it is implemented in conjunction with net metering.[137] When customers without DES units opt in to a time-of-use pricing scheme, they are incentivized to change their energy consumption patterns by shifting energy use to off-peak times when energy is less expensive. However, few customers want to completely stop consuming electricity during peak hours. For example, a refrigerator cannot be turned off for hours without food spoiling, and sometimes dinner needs to be cooked at a certain hour. DES helps to address this problem. When a customer with a DES unit opts in to a time-of-use pricing scheme, that customer can buy all of his or her power at the low off-peak price and then use power from the battery when the on-peak price is in effect. In addition to potentially reducing the customer's energy bill, under this scenario, the time-of-use pricing plan lowers the customer's demand on the grid to zero for the on-peak period.

Of course, as DES units become more commonplace, time-of-use pricing could gradually become a less potent means of driving DES investment. As more customers install DES units and opt in to time-of-use pricing schemes, the demand for grid-supplied electricity will likely become more smooth across the day and year, and the gap between off-peak and on-peak electricity prices will likely decrease. Accordingly, time-of-use pricing schemes should be seen as a temporary measure. They are crucial for incentivizing the installation of DES units and alleviating the peak load on the grid in the short term, but they are not well suited to serve as a permanent policy strategy.

It is possible that some people will oppose time-of-use pricing, even as a temporary measure. One could argue that time-of-use pricing disproportionately impacts vulnerable populations, such as the elderly, who may have less flexibility in changing the times they use electricity. If such opposition occurs, utilities could consider making time-of-use pricing optional at first to allow customers the time to change their habits and to purchase DES units. Once customers become accustomed to time-of-use pricing, utilities can make it mandatory. Utilities may choose to provide exceptions for certain customers if it is found that time-of-use pricing would have adverse effects on vulnerable or low-income populations. Alternatively, states can make tax credits or subsidies available to address this problem.

2. Storage Net Metering Programs

Net metering is a utility billing approach that allows a customer to receive credit for electricity he or she sends to the grid.[138] Under a net metering program, a utility installs a two-way meter in a customer's home that measures electricity coming into and out of the home.[139] The customer is credited for the electricity that the home sends back to the grid and is charged

only for the "net" electricity used.[140] For example, a residential user with more energy in her home's battery than she needs can offset the home's electricity bill by sending excess energy back to the grid.

Net metering schemes are also essential for enabling utility shared access programs. Utility shared access programs allow utility companies to both store electricity on and take electricity from their customers' DES units. To be effective, the shared access program must allow the utility to store and take electricity without approval from the customer. The amount of electricity stored or taken should be limited to a certain percentage of the DES unit's capacity so that the customer can enjoy the benefits of the DES unit at all times. Utility companies should be required to compensate customers for electricity they take and for the ability to store excess electricity customers' DES units. Rather than developing a separate scheme for this access, the simplest method of ensuring fairness for customers is to use net metering regulations to govern this relationship.

It should be noted that some negative consequences of utility shared access programs may arise for customers with both a DES unit and rooftop solar panels. For example, utilities could force customers to purchase some amount of energy during the morning when demand for power is low but the sun is also shining. This reduces the amount of solar energy that customers could store, potentially forcing customers to sell excess energy to the grid sooner in the day and at a lower price than they otherwise would. Similarly, if the utility company buys too much power from customers during an evening peak period, there may not be enough sunshine remaining in the day to charge their DES units enough to power their homes overnight, forcing them to buy energy overnight. For these reasons, utility companies should be allowed to gain access only to a percentage of any given customer's energy reserves.

As time-of-use pricing incentivizes widespread adoption of DES units and gives way to a real-time pricing scheme, net metering regulations will be critical to the way that the real-time energy market functions. When there are enough DES units installed with smart technology that enables them to buy, sell, and store energy, net metering regulation will determine the way that those transactions occur and the costs imposed on them.

3. DES-Friendly Rate Structures

Another important means of incentivizing greater adoption of DES technologies is to ensure that utility rate structures do not deter customers from purchasing DES devices.[141] For example, suppose that a customer is considering whether to purchase a rooftop solar system and a DES unit. The customer will have to pay up-front costs and will want to know how long it will take to recover those costs. If the utility imposes special monthly charges on the customer's account or charges higher rates to customers with DES and DRG, it will take much longer for those customers to recover their initial investment, and many customers may decide that such an investment is not cost-effective. The pace of growth for DRG and DES will depend in large part on whether utilities are permitted to charge special fees for customers who use these technologies.

Although utilities have not yet proposed special fees or rates for customers who install DES, such charges are a possibility in the future. AS DES systems become more widespread, some utilities may feel threatened by DES because of its potential to help some customers exit the grid entirely or purchase far less electricity from the grid. Widespread adoption of DES could help utilities in the long run as it becomes more widespread and smooths the demand curve. However, in the interim, utilities will still rely costly peaking plants and likely want some customers paying the high prices when demand is high. Accordingly, policymakers should be vigilant not to allow utilities to charge special fees or otherwise penalize customers who install DES technologies.

D. Storage Portfolio Standards

Renewable Portfolio Standards ("RPS") have been highly successful at speeding up the installation of renewable energy generation facilities in the United States.[142] Analogous Storage Portfolio Standards ("SPS") could be used similarly to accelerate the adoption of DES.

RPS policies generally obligate retail electric suppliers to install enough renewable generation facilities so that a certain percentage of all of the electricity that that utility generates comes from renewable resources.[143] Some RPS policies go further by taking measures to actively incentivize the development of a particular type of renewable resource. For instance, some RPS policies require that some percentage of the renewable generation requirement be filled by a particular type of technology such as solar or wind.[144] Policies in other jurisdictions multiply the credit toward RPS goals for certain favored renewable technologies.[145]

A successful SPS scheme should impose requirements based on a percentage of the grid's overall electricity capacity within a given utility service area. Each state should determine how much energy storage capacity is necessary to achieve its desired improvements in grid security. Policymakers could choose either of two methods to decide what amount of energy storage to require on the grid.

The first method is to require a certain percentage of the utility's total generation capacity to be matched by an equal amount of storage capacity. One great advantage of this method is its simplicity. Utility companies are aware of their overall generation capacity, and this knowledge is typically available to the public,[146] so the quantitative requirements would be easy to determine and to track as storage capacity is installed. Fixing the required amount of storage to a percentage of overall generation capacity also allows for the storage requirement to grow with the energy grid.

The second method is to require an amount of storage capacity to be installed equal to a certain generation capacity over a specified period of time. This could be the amount of energy generated by a particular peaking plant on its annual peak day. This method is distinctly better for phasing out old or inefficient

generation plants, especially peaking plants. Installation of an amount of storage equal to the highest per-day output that a peaking plant must produce would allow for the utility company to decommission the peaking plant and replace its output with stored energy. Measures like this could be adopted on a per-plant basis alongside development of renewable energy generation facilities.

It is possible in theory to mix these two methods within the same policy. The policy could begin by setting a baseline storage capacity requirement per the first method. Once that baseline or a predetermined portion of it has been met, the SPS could expand per the second method so as to more rapidly decommission outdated fossil fuel burning power plants. Each state should consider both methods when adopting policy to create the SPS regime most favorable to its individual energy situation.

An SPS policy that merely requires a certain percentage of energy storage on the grid would heavily favor the installation of centralized energy storage over DES. If SPS policies strictly follow in the footsteps of their RPS progenitors, the burden would fall on the utility companies to install energy storage. Utility companies installing storage have little incentive to distribute that storage across their service area, much less within customers' homes, when they could install all of it in just a few locations and under their own control. Of course, DES arguably increases grid security and resilience more than centralized energy storage does because it spreads energy storage throughout a utility territory rather than confining it to just a handful of locations.[147] SPS policies that incentivize utility companies only to install centralized energy storage miss the opportunity to use DES to further strengthen the grid.

Relying on utilities to install the nation's energy storage capacity is also arguably undesirable from a cost perspective. To fund the purchase and installations of that storage capacity, utilities would need to increase the rate which they charge to their customers[148]. Utility companies already complain that when too many customers operate rooftop solar panels, the resulting loss in revenue makes it more difficult for them to afford the maintenance necessary to operate their existing infrastructure.[149] Raising electricity rates to pay for energy storage could be politically difficult and suboptimal from a policy perspective.

Policymakers could address these challenges and ensure that DES makes up a significant proportion of all energy storage development by including DES "carve-out" provisions in SPS policies. The carve-out provisions would require that some minimum percentage of the total energy storage capacity installed to meet SPS goals be in the form of residential or commercial-scale DES systems. Establishing such SPS policies and DES carve-outs alongside utility shared access programs[150] could drive rapid growth in DES development. At the same time, it would still give utilities the control they need to smooth energy demand and ensure grid stability.

Incentivizing utility customers to purchase their own DES units is arguably a more appealing method of funding the addition of storage capacity to the grid. Shifting the cost of the majority of energy storage development to customers who choose to purchase their own DES units could allow for the grid's storage capacity to grow sustainably and with less significant impacts on electricity rates. In conjunction with net metering, time of use pricing, and utility shared access programs, such an approach could incentivize efficient growth in DES development while giving grid operators the ability to utilize that increasing energy storage capacity to smooth energy demand.

E. Regulations to Address DES' Environmental Harms

The potential environmental harms associated with DES[151] can largely be prevented through ex ante regulations. Policymakers can proactively protect against environmental hazards associated with DES technology by creating a robust recycling infrastructure for the materials used in DES. Regulations carefully designed to accomplish this can ensure that DES retains its eco-friendly appeal and positive public image.

The federal government has established specific guidelines for responsible practices that protect the environment from hazardous waste. The Environmental Protection Agency ("EPA") has developed hazardous waste recycling regulations to promote and require reclamation of materials which are safe to dispose of in the environment.[152] These regulations can be extended to DES and can require that specific guidelines are followed for DES technology disposal and recycling. Responsible practices would cover the transport, treatment, storage, disposal, recycling, and corrective action for hazardous DES materials.[153]

State governments could likewise hold DES producers accountable for environmental impacts. States can mandate that DES producers help to fund a recycling infrastructure for DES systems. States could require that manufacturers fund the collection and recycling of DES batteries, advertise such programs to consumers, and report on their progress.[154] States could impose civil penalties on DES producers who violate these requirements and increase the penalties for repeated offenses.[155] Although it may be less expensive in many instances for producers to mine new materials for DES rather than recycle them, subsidies or tax credits for DES recycling could provide the additional incentive needed to get producers to lead in recycling efforts.[156] In summary, governments can and should take proactive steps to ensure that the growth of DES is not stunted by concerns about the potential environmental harms associated with DES technology.

F. Promoting the Use of DES in Remote Areas

As DES makes micro-grids and DRG more effective, some rural areas may eventually be able to go "off-grid" and rely solely on energy they generate and store on site. Policies that encourage energy independence for remote areas through the use of DES and other technologies could ultimately benefit utilities and customers alike. Utility customers could have a more resilient system that was less susceptible to blackouts or brownouts, and utilities would save money by not needing to service properties in remote areas. In addition, utilities would be spared from having to build costly new transmission lines to rural areas with few customers to foot the bill.

Two plausible candidates for eventually going off-grid are small rural communities and many of the nation's remote national

parks. Some rural electricity customers are often serviced through utilities that must build dozens of miles of transmission and distribution lines just to connect them to the grid. Eventually, state public utility commissions might consider policies that allow utilities to refuse rural customers if they can show that an off-grid, renewable energy system is adequate and cost-effective.

Like rural customers, national parks are often located in remote areas that must be serviced by utilities.[157] The National Park Service (NPS) operates and maintains over 600,000 structures in almost 400 national parks.[158] Rather than relying wholly on utilities, NPS could determine which parks were capable of using DRG and DES technology or micro-grids and begin working to transition park infrastructure to be off-grid.

Conclusion

DES technologies have tremendous potential to smooth peaks in energy demand, increase grid security, and address the intermittency problems associated with distributed solar power, all while making the entire energy system more efficient. However, several roadblocks continue to slow the growth of DES markets in the United States. Fortunately, a wide range of policy tools is available to help drive the development and adoption of DES technologies.

Among the most promising policy strategies for driving DES growth are time-of-use pricing structures, storage net metering programs, tax credits programs, and SPS programs with DES carve-outs designed to incentivize utilities' support of DES installations within their territories. Analogs to most of these policy strategies have already done much to drive astounding growth in distributed solar energy throughout the United States over the past decade. Adapting them to promote DES is the next obvious step toward helping the nation's legacy grids and increasingly outmoded electricity structure transition into a more sustainable and modern system.

Endnotes

1 *See* Int'l Energy Agency, Technology Roadmap: Energy Storage 5 (2014), https://www.iea.org/publications/freepublications/publication/TechnologyRoadmapEnergystorage.pdf.

2 *See* U.S. Dept. of Energy, Southern California Edison Company Tehachapi Wind Energy Storage Project (May 2014), http://energy.gov/sites/prod/files/2015/05/f22/SoCal-Edison-Tehachapi-May2014.pdf.

3 *See* Mariya Soshinskaya et al., *Microgrids: Experiences, Barriers and Success Factors*, 40 Renewable & Sustainable Energy Revs. 659, 661 (2014) (describing that the basic concept of microgrids, despite a variety of definitions, "is to aggregate and integrate distributed energy resources (DER) . . . distributed storage (DS) and loads . . .").

4 *See* About Microgrids, Microgrid Inst., http://www.microgridinstitute.org/about-microgrids.html (last visited Apr. 17, 2017) ("Typical examples [of campus microgrids] serve university and corporate campuses, prisons, and military bases."); *see also* Niles Barnes, *Smart Microgrids on College & University Campuses*, AASHE Blog: Campus Sustainability Perspectives (May 18, 2011, 12:30 PM), http://www.aashe.org/blog/smart-microgrids-college-university-campuses (providing examples of specific universities that employ microgrids to manage electricity on campus).

5 *See* discussion *infra* Section IV.C.1.

6 *See* discussion *infra* Section IV.C.2.

7 *See* Rich McCormick, *Tesla's Huge New Batteries Will Store Power for Amazon, Target, and Others*, The Verge (May 1, 2015), http://www.theverge.com/2015/5/1/8527699/tesla-battery-amazon-target-for-renewable-energy.

8 *Id*.

9 Joel B. Eisen et al., Energy, Economics and the Environment 66 (2015); *see also* U.S. Dep't of Energy Office of Electricity Delivery & Energy Reliability, United States Electricity Industry Primer 6 (2015), https://www.energy.gov/sites/prod/files/2015/12/f28/united-states-electricity-industry-primer.pdf (defining the traditional structure of the electricity grid) [hereinafter Dep't of Energy].

10 *See id.* at 67.

11 *See id.*

12 *See id.*

13 *See id.*

14 *See id.*

15 *See id.*

16 *See id.; see also* Dep't of Energy, *supra* note 9, at 12 (explaining that peaking plants can be taken on and offline quickly).

17 *See* Eisen, *supra* note 9, at 67*; see also* Dep't of Energy, *supra* note 9, at 12 (explaining that although natural gas-fired plants have higher fuel costs, they also have a faster start up time).

18 *See* Eisen, *supra* note 9, at 68.

19 *See id.*

20 *Id*.

21 *Id*; *see also* Dep't of Energy, *supra* note 9, at 90 (defining "Spinning Reserve" as Electric generating units connected to the system that can automatically respond to frequency deviations and operate when needed")

22 *Id*.

23 *Id.* at 69; *see also* Dep't of Energy, *supra* note 9, at 13 (diagramming the electricity supply chain) (particularly Figure 12).

24 *See id*; *see also* U Dep't of Energy, *supra* note 9, at 15 (providing background on substations' role in linking transmission and distribution networks).

25 *See id*.

26 Victoria Johnston, *Storage Portfolio Standards: Incentivising Green Energy Storage*, 20 J. of Envtl. & Sustainability L. 25, 47 (2014) (describing the limitations of the current electricity system).

27 *See id.* at 50.

28 Eisen, *supra* note 9, at 67.

29 *See Glossary of Terms Used in NERC Reliability Standards*, N. Am. Elec. Reliability Corp., (Apr. 4, 2017), http://www.nerc.com/pa/stand/glossary%20of%20terms/glossary_of_terms.pdf (defining "Spinning Reserve" as "Unloaded generation that is synchronized and ready to serve additional demand").

30 *See* Eisen, *supra* note 9, at 74.

31 *See* Johnston, *supra* note 26, at 47; *see also Glossary,* U.S. Dep't of Energy Info. Admin., http://www.eia.gov/tools/glossary/index.cfm?id=P (last visited Feb. 2, 2016) (defining "[p]eak load plant" as "[a] plant usually housing old, low-efficiency steam units, gas turbines, diesels, or pumped-storage hydroelectric equipment normally used during the peak-load periods").

32 *See* Eisen, *supra* note 9, at 74 ("When demand is modest, the cheapest generators are able to satisfy it, resulting in modest prices. However, during peak periods, all generation resources—even the most expensive—must be called upon."); *see also* U.S. Dep't Energy Info. Admin., *supra* note 32; *see also* N. Am. Elec. Reliability Corp., *supra* note 30.

33 *See* Dep't of Energy, *supra* note 9, at 12 ("[N]atural gas-fired plants . . . have faster start up times but typically higher fuel costs.").

34 *See*, *CPUC Improves and Streamlines Self-Generation Incentive Program*, Cal. Pub. Utils. Comm'n (Sept. 8, 2011) http://docs.cpuc.ca.gov/PUBLISHED/NEWS_RELEASE/142914.htm; *see also* Marianne Levelle, *After Hurricane Sandy, Need for Backup Power Hits Home*, Nat. Geographic (Oct. 29, 2013) http://news.nationalgeographic.com/news/energy/2013/10/131028-hurricane-sandy-aftermath-need-for-backup-power/ (referencing a backup solar energy project in Brooklyn, NY).

35 *See* Johnston, *supra* note 26, at 51.

continued on page 48

continued from page 11

[29] *See id.*; *see also Solar City Launches First Public Offering of Solar Bonds*, Solar City, https://solarbonds.solarcity.com/ (last visited March 5, 2017) (issuing $200 million in asset-linked retail bonds).

[30] *See This is Leed*, Leed, http://leed.usgbc.org/leed.html (last visited Mar. 5, 2017) (laying out the Leadership in Energy and Environmental Design ("LEED") certification process for green commercial and residential buildings in the United States as established by the United States Green Building Council ("USGBC")).

[31] *See* Int'l Cap. Mkts. Ass'n, *supra* note 13, at 1.

[32] *See Green Projects*, *supra* note 6.

[33] *See id.* (outlining a climate resilient project in Belize that built-up roads to confront heightened flooding risk from rising sea levels and a project in China that reconstructed a river basin and improved drainage to prevent flooding and contamination caused by climate change).

[34] *See Tax Incentives for Issuers and Investors,* Climate Bond Initiative, https://www.climatebonds.net/policy/policy-areas/tax-incentives (last visited Mar. 5, 2017) (explaining that "bond investors do not have to pay income tax on interest from the green bonds they hold").

[35] *See What are Green Bonds*, *supra* note 3 (explaining that "Green Bonds are an opportunity to invest in climate solutions through a high quality credit fixed income product").

[36] *See Climate Bonds for Beginners,* Climate Bond Initiative, https://www.climatebonds.net/resources/overview/climate-bonds-for-beginners (last visited Mar. 5, 2017) (stating that 89% of green bonds are investment-grade); *see also* Christopher Swope, *Explainer: What Are 'Green Bonds' and Why Are Cities So Excited About Them?*, Citiscope (May 20, 2016), http://citiscope.org/story/2016/explainer-what-are-green-bonds-and-why-are-cities-so-excited-about-them (contending municipal bonds are viewed as safe and attract many investors).

[37] *See* Michael Chamberlain, *Socially Responsible Investing: What You Need to Know*, Forbes (Apr. 24, 2013), http://www.forbes.com/sites/feeonlyplanner/2013/04/24/socially-responsible-investing-what-you-need-to-know/#40115f885863 (breaking down how SRIs make investment decisions).

[38] *See* Envtl. Fin. Staff, *Show Me the Green Money!*, Envtl. Fin. (Aug. 22, 2016), https://www.environmental-finance.com/content/analysis/show-me-the-green-money.html (making clear how SRIs can be beneficial to issuers' investor portfolios).

[39] *See* Bridget Boulle, *The Dawn of an Age of Green Bonds?*, Green Econ. Coal. (Mar. 12, 2014), http://www.greeneconomycoalition.org/know-how/dawn-age-green-bonds.

[40] *See id.* (giving AAA status is the safest rating an investment can receive).

[41] *See* Zanki, *supra* note 5.

[42] Boulle, *supra* note 39.

[43] *See History,* Climate Bond Initiative, http://www.climatebonds.net/market/history (last visited Mar. 5, 2017) [hereinafter CBI *History*]; *see also EIB Climate Awareness Bonds,* The Eur. Inv. Bank, http://www.eib.org/attachments/fi/projects-supported-by-cabs.pdf (last visited Mar. 5, 2017) (financing projects such as energy efficient, private and public housing in Austria).

[44] *See New World Bank Green Bond Is a Story of Market Growth and Innovation,* WBG, http://www.worldbank.org/en/news/feature/2015/02/25/green-bond-story-market-growth-innovation (last visited Mar. 5, 2017) [hereinafter *New World Bank*].

[45] *See Strategic Framework*, *supra* note 2.

[46] *See What are Green Bonds*, *supra* note 3.

[47] *See id.*

[48] *See New World Bank*, *supra* note 44.

[49] *What are Green Bonds*, *supra* note 3.

[50] *See Our Governance,* IFC, http://www.ifc.org/wps/wcm/connect/corp_ext_content/ifc_external_corporate_site/about+ifc_new/IFC+Governance (last visited Mar. 12, 2017) (explaining that the IFC is a member of the World Bank Group although it remains a separate legal entity).

[51] CBI *History*, *supra* note 43.

[52] *See id.* (describing how green bonds became mainstream investments).

[53] *See* Boulle, *supra* note 39.

[54] *See id.* (creating more demand by issuing through larger well known corporate issuers).

[55] *Compare* SIFMA, *supra* note 19 (computing 2010 corporate bond issuances at $1.03 trillion) *with Global Bonds*, The World Bank Treasury, http://treasury.worldbank.org/cmd/pdf/InvestorBriefsGlobalBonds.pdf (last visited Mar. 10, 2017) (approximating annual World Bank bond issuances at $2 to $4 billion).

[56] *See* Mike Cherney, *Massachusetts Goes 'Green,'* Wall St. J. (June 4, 2013, 7:33 PM), http://www.wsj.com/articles/SB10001424127887324563004578525762271478512 (investing in water quality, energy efficiency, and pollution reduction across the State).

[57] *Id.*

[58] *See* Zanki, *supra* note 8 (detailing that funding will be distributed to water conservation projects and installing solar panels on public schools).

[59] *See* Scott M. Stringer, *A Green Bond Program for New York City,* N.Y.C. Office of the Comptroller 4 (2015), https://comptroller.nyc.gov/wp-content/uploads/2016/06/Green_Bond_Program_Update.pdf (reporting that investors agreed for eligible green projects to be modeled after the systems of other successful issuers).

[60] *Id.* (recognizing that a high-quality program would improve the City's risk profile among investors and verify NYC as a leader in the green municipal bond market).

[61] *See* Boulle, *supra* note 39 (increasing market size when corporate issuers with deep pockets began issuing green bonds).

[62] *What are Green Bonds*, *supra* note 3; *see generally Safeguard Policies*, The World Bank, http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/EXTSAFEPOL/0,,menuPK:584441~pagePK:64168427~piPK:64168435~theSitePK:584435,00.html (last visited Mar. 12, 2017) [hereinafter *Safeguard Policies*] (framing the World Bank's policies for monitoring the social and environmental impacts of its investments).

[63] *See* Zanki, *supra* note 5 (conveying that a definitive green standard will prevent manipulation and increase transparency).

[64] *See* UNDP, *supra* note 24 (displaying the major concerns and risks in the green bond market).

[65] *See* Kapur, *supra* note 9 (asserting that without increased transparency investors will exit the market).

[66] *See generally* ILSR Admin, *Top 10 Ways Walmart Fails on Sustainability*, Inst. for Local Self-Reliance (Apr. 17, 2012), https://ilsr.org/top-10-ways-walmart-fails-sustainability/ (deducing that Wal-Mart is the most notorious greenwasher and has recently begun highlighting its sustainability efforts yet has failed to meet these promises and ignores its drastic environmental impact).

[67] *See About Greenwashing*, Greenwashing Index, http://greenwashingindex.com/about-greenwashing/ (last visited Mar. 12, 2017) (defining greenwashing).

[68] *See id.* (presenting common examples of greenwashing).

[69] *See* Phillip Ludvigsen, *Advanced Topics in Green Bonds: Risks*, Envtl. Fin. (Nov. 24, 2015), https://www.environmental-finance.com/content/analysis/advanced-topics-in-green-bonds-risks.html (revealing that issuers may make environmental claims without supporting evidence).

[70] *See* Fred Pearce, *Greenwash: Why 'Clean Coal' is the Ultimate Climate Change Oxymoron*, The Guardian (Feb. 26, 2009), https://www.theguardian.com/environment/2009/feb/26/greenwash-clean-coal (publicizing that claims of modern coal being 70% cleaner come from a reduction of sulphur and nitrogen not carbon emissions).

[71] *See* Ludvigsen, *supra* note 69 (calling for up-to-date disclosure of projects environmental data to keep investors informed and able to monitor progress).

[72] *See id.* (explaining that increased disclosure of environmental impacts will help investors weigh decisions on which projects they deem green enough for their money).

[73] *See* Int'l Cap. Mkts. Ass'n, *supra* note 13, at 3.

[74] *See id.* at 2 (presenting that these requirements will prevent issuers from misleading the market).

[75] *See id.* at 3.

[76] *See id.* (listing the eligible broad green bond project categories based on environmental and sustainable sectors in need of financing).

[77] *See GBP Membership*, Int'l Cap. Mkts. Ass'n, http://www.icmagroup.org/Regulatory-Policy-and-Market-Practice/green-bonds/membership/ (last visited Mar. 12, 2017) (listing eighty-eight issuers and underwriters who are members of the GBP).

[78] *See* Robert N. Freedman, *Financing Green: The Rise of the Green Bond*, Law360 (June 26, 2014 5:47 PM), http://www.law360.com/articles/552291/

financing-green-the-rise-of-the-green-bond?article_related_content=1 (recognizing despite the benefits of the GBP, problems still exist in the market).

[79] *See* Kapur, *supra* note 9 (contending the lack of regulation will allow greenwashing to saturate the market and prevent meaningful change).

[80] *See* Int'l Cap. Mkts. Ass'n, *supra* note 13, at 1-6.

[81] *See* Zanki, *supra* note 5 (stressing the issues with the market subscribing to voluntary guidelines).

[82] *See* Int'l Cap. Mkts. Ass'n, *supra* note 13, at 2 (explaining the ICMA's argument for voluntary prescription).

[83] *See id.* at 2 (noting that green bond issuers are not required to follow the GBP).

[84] *See About Us*, Int'l Cap. Mkts. Ass'n, http://www.icmagroup.org/About-ICMA/ (last visited Mar. 29, 2017).

[85] *See* Graham Cooper, *Green Bond Market Needs Dialogue with Policymakers, Says Think Tank*, Envtl. Fin. (June 8, 2016), https://www.environmental-finance.com/content/news/green-bond-market-needs-dialogue-with-policymakers-says-think-tank.html (suggesting public sector development of standards would be beneficial for the green bond market).

[86] *See id.* (noting a clear definition of "greenness" is essential to the market).

[87] Int'l Cap. Mkts. Ass'n, *supra* note 13, at 3.

[88] *See* Cooper, *supra* note 85 (reiterating that integrity is crucial the markets financial and environmental success).

[89] *See* Ludvigsen, *supra* note 69 (arguing an implied benefit of environmental externalities can be valued).

[90] *See* Int'l Cap. Mkts. Ass'n, *supra* note 13, at 5 (verifying sustainability by comparing internal claims made by the issuer to external evaluations of reviewer).

[91] *See id.* at 4.

[92] *See* Ludvigsen, *supra* note 69 (rebuking second-party sources who provide ratings for a green bond project they helped create and declaring it an "independent" rating).

[93] *See Moody's Corporation*, Moody's, https://www.moodys.com/Pages/atc.aspx (last visited Mar. 12, 2017) (describing Moody's role in the financial industry as issuing credit ratings and analysis for securities and bonds).

[94] *See* Dominic Rushe, *Credit Agencies Dropping Claims That They are 'Independent', Harvard Finds*, The Guardian (Apr. 9, 2015, 7:30 AM), https://www.theguardian.com/business/2015/apr/09/credit-agencies-rejecting-claims-independent-harvard (noting Moody's has shied away from referring to itself as "independent" after the 2008 financial crisis).

[95] *See* Rupert Neate, *Ratings Agencies Suffer Conflict of Interest, Says Former Moody's Boss*, The Guardian (Aug. 22, 2011, 1:18 PM), https://www.theguardian.com/business/2011/aug/22/ratings-agencies-conflict-of-interest (confirming credit rating agencies' role in the 2008 financial crisis).

[96] *See* Kat Greene, *SEC Says Conflicts of Interest Persist at Ratings Agencies,* Law360 (Dec. 23, 2014 9:57 PM), http://www.law360.com/articles/607603/sec-says-conflicts-of-interest-persist-at-ratings-agencies (reporting that conflict of interests continue to exist).

[97] *See* Usman Hayat, *Green Bonds: What's Right, What's Wrong*, Enter. Inv. (July 9, 2015), https://blogs.cfainstitute.org/investor/2015/07/09/green-bonds-whats-right-whats-wrong/ (arguing conflicts of interest will arise if current disclosure laws and service providers both advise and offer reviews to issuers).

[98] *Climate Bond Standard*, *supra* note 22.

[99] *See id.* at 8-9 (requiring issuers to disclose quantitative methods for determining sustainability impacts).

[100] *See Climate Bond Standard*, *supra* note 22, at 11-12 (outlining the pre-issuance and post-issuance certification process to ensure investors of the integrity of their funds).

[101] *See id.* at 3 (demonstrating the Climate Bond Standard is voluntary for issuers to show off their climate integrity).

[102] *See* Kapur, *supra* note 9 (explaining these voluntary guidelines come with costs not required for conventional bonds).

[103] *See* Int'l Cap. Mkts. Ass'n, *supra* note 13, at 3 (noting the difference between conservation projects that preserve wildlife habitats and sustainability projects that produce renewable energy and smart farms).

[104] *See Climate Bond Standard*, *supra* note 22, at 3 (stating the Climate Bond Standard follows the requirements of the GBP, which purposely do not weigh eligible projects against each other); *see also* Int'l Cap. Mkts. Ass'n, *supra* note 13, at 3.

[105] *See Protecting the Environment*, Nuclear Energy Inst., http://www.nei.org/Issues-Policy/Protecting-the-Environment (last visited Mar. 12, 2017) (detailing the conservation concerns of nuclear power).

[106] *See* Envtl. Fin. Staff, *Green Bond Comment- July 2016*, Envtl. Fin. (July 27, 2016), https://www.environmental-finance.com/content/analysis/green-bond-comment-july-2016.html (pointing out without a standard the market will continue to permit controversial projects).

[107] *See* Giulio Boccaletti, *Not All Types of Water Projects Should Be Considered Green*, Envtl. Fin. (Oct. 23, 2015), https://www.environmental-finance.com/content/analysis/not-all-types-of-water-projects-should-be-considered-green.html (arguing the lack of a definition for "sustainable resource management" makes classification of water projects as a green bond industry unclear).

[108] *See id.* (highlighting several of the negative environmental impacts of water projects that, some have argued, outweigh the benefits).

[109] *See* Hamza Ali, *US Munis Tap Green Bond Market for Water Projects*, Envtl. Fin. (Aug. 31, 2016), https://www.environmental-finance.com/content/news/us-munis-tap-green-bond-market-for-water-projects.htmlt [hereinafter Ali *Munis*] (stating that projects that provide drinking water may not be green).

[110] *See generally Water Climate Bonds Standard*, Climate Bond Initiative, http://www.climatebonds.net/files/files/Climate%20Bonds-Draft%20Water%20Bond%20Standard-Consultation%20Paper%2020-11-2015.pdf [hereinafter *Water Climate Bonds Standard*] (defining eligibility for water projects financed by green bonds and intending to provide investors with a framework to evaluate water related bonds).

[111] *See* Meg Wilcox, *San Francisco Public Utilities Commission (SFPUC) Issues World's First Certified Green Bond for Water Infrastructure*, Ceres, (May 18, 2016), https://www.ceres.org/press/press-releases/san-francisco-public-utilities-commission-issues-world2019s-first-certified-green-bond-for-water-infrastructure (issuing $240 million in green revenue bonds for sustainable storm water management and water projects based on the Water Climate Bonds Standard).

[112] *See* Sophie Robinson-Tillett, *Green Bond Market Risks Losing Credibility, Warns Allianz*, Envtl. Fin. (Nov. 24, 2015), https://www.environmental-finance.com/content/news/green-bond-market-risks-losing-credibility-warns-allianz.html (emphasizing that standardization is needed in order to preserve the market).

[113] *See* Kapur, *supra* note 9 (noting that voluntary regulations come with lower costs but also enable greenwashed projects which do nothing to mitigate climate change and push away investors).

[114] *See* Robinson-Tillett, *supra* note 112 (stating that without regulatory intervention, a mixed market will never recover its credibility).

[115] *See* Zanki, *supra* note 5 (standardizing "green" provides clarity for all international market participants).

[116] *See* U.S. Food & Drug Admin., How is the Term "Organic" Regulated? (2016), https://www.fda.gov/AboutFDA/Transparency/Basics/ucm214871.htm (last visited Mar. 12, 2017) (outlining the process for regulating the term organic); *see also* U.S. Dep't of Agric., Organic Regulations, https://www.ams.usda.gov/rules-regulations/organic (last visited Mar. 12, 2017) (explaining the USDA's regulations of organics).

[117] *See* U.S. Dep't of Agric., *supra* note 116 (mentioning the regulation and comment review process).

[118] *See* U.S. Dep't of Agric., Becoming a Certified Operation (addressing concerns of increasing regulatory costs by reimbursing eligible organic producers up to 75% of the certification costs).

[119] *See* U.S. Dep't of Agric., *supra* note 116.

[120] *See id.*

[121] *See* Cooper, *supra* note 85 (arguing for the government to lead the regulation of the market).

[122] *See generally* Sec. & Exch. Comm'n, What We Do, https://www.sec.gov/about/whatwedo.shtml (last visited Mar. 12, 2017) (giving an overview of the SEC's role).

[123] Envtl. Prot. Agency, What is Green Infrastructure, https://www.epa.gov/green-infrastructure/what-green-infrastructure (last visited Mar. 12, 2017).

[124] *See* Kapur, *supra* note 9 (noting the industry is nervous that regulations will lower issuance rates).

[125] *See generally* Green City Bonds, *How to Issue a Green Muni Bond*, Green Bond Coal. 1-3 (July 28, 2015), http://www.climatebonds.net/files/files/Green%20City%20Playbook.pdf (illuminating the historic value of municipal bonds).

[126] *See id.* at 4 (combining a safe investment in municipal bonds with the budding potential municipalities possess to mitigate climate change).

[127] *See* Kapur, *supra* note 9 (reporting municipal bonds without verification are likely to be greenwashed).

[128] *See id.* (stating that investors are skeptical when verification is lacking).

[129] *See generally id.* (suggesting that tax benefits are useless without the intrinsic environmental benefits).
[130] *See* Robinson-Tillett, *supra* note 112 (highlighting how even the private sector is concerned about greenwashing and standardized regulation is needed in the green bond market).
[131] *See* Hamza Ali, *Moody's Issues First GBA of a US 'Muni' Bond*, Envtl. Fin. (Aug. 11, 2016), https://www.environmental-finance.com/content/news/moodys-issues-first-gba-of-a-us-muni-bond.html [hereinafter Ali *GBA*].
[132] *See* Hamza Ali, *Moody's Announces Green Bond Assessment Criteria*, Envtl. Fin. (Jan. 14, 2016), https://www.environmental-finance.com/content/news/moodys-announces-green-bond-assessment-criteria.html [hereinafter Ali *Criteria*] (explaining Moody's grading system for the new GBA).
[133] *See id.* (making clear that Moody's does not market GBAs as official credit ratings).
[134] *See id.* (allowing investors to make more educated decisions about the bonds they invest in).
[135] *See generally id.* (suggesting that although beneficial, GBAs do not solve the problems with voluntary prescription).
[136] *See id.* (admitting that the GBA is voluntary).
[137] Ali *GBA*, *supra* note 131.
[138] *See generally* Boccaletti, *supra* note 107 (summarizing the debate over whether water projects should be eligible for green bond status).
[139] *See* Graham Cooper, *US Municipalities Launch $800m of Green Bonds for Water Projects*, Envtl. Fin. (June 1, 2016), https://www.environmental-finance.com/content/news/us-municipalities-launch-800m-of-green-bonds-for-water-projects.html (announcing $800 million in new green municipal bonds dedicated to water projects in Massachusetts, San Diego, and New Jersey).
[140] *See* Ali *Munis*, supra note 109 (acknowledging that without a clear definition, it is unclear how green a project needs to be).
[141] *See* Robinson-Tillett, *supra* note 112 (warning that standardization is needed for the market to remain healthy and robust).
[142] *See generally* Mun. Sec. Rulemaking Bd., About MSRB, http://www.msrb.org/About-MSRB.aspx (last visited Mar. 12, 2017) (publicizing the MSRB's role in the municipal bond market).
[143] *See generally* Fin. Indus. Reg. Auth., http://www.finra.org/about (last visited Mar. 12, 2017) (stating that FINRA is a private corporation that works as a self-regulatory organization and is financed by its many broker-dealer members).
[144] *See* Mun. Sec. Rulemaking Bd., *supra* note 142 (clarifying the MSRB's rules are enforced by the SEC).
[145] *See generally* Mun. Sec. Rulemaking Bd., Primary Market Disclosures, http://www.msrb.org/Market-Transparency/Primary-Market.aspx (last visited Mar. 12, 2017) (increasing the MSRB's jurisdiction after the 2008 financial crisis).
[146] MSRB Rule, MSRB Rule G-32(a)(iii)(A), http://www.msrb.org/rules-and-interpretations/msrb-rules/general/rule-g-32.aspx.
[147] Mun. Sec. Rulemaking Bd., Continuing Disclosures, http://www.msrb.org/Market-Transparency/Continuing-Disclosure.aspx (last visited Mar. 12, 2017).
[148] *See* Ludvigsen, *supra* note 69 (exclaiming investors can do little until some sort conformity is implemented).
[149] *See id.* (calling the GBP and CBI beneficial in defining a standard of care).
[150] *See generally* Int'l Cap. Mkts. Ass'n, *supra* note 13; *Climate Bond Standard*, *supra* note 22.
[151] *See* Ludvigsen, *supra* note 69 (suggesting that investors who assert false environmental promises from issuers were material to their investment decisions should be able litigate their claims).
[152] *See* Zhu v. UCBH Holdings, Inc., 682 F. Supp. 2d 1049, 1052 (N.D. Cal. 2010) (allowing plaintiffs to consolidate claims if they relying on the same information to prevent "delay, confusion and prejudice").
[153] *Id.* at 1051.
[154] *Id.* at 1052.
[155] *Id.*
[156] *Id.*
[157] *See* Ludvigsen, *supra* note 69 (realizing that investors cannot point to a standard of care until regulations are made).
[158] *See Class Action Attorney: Answers About Class Action Lawsuits*, Lieff Cabraser Heimann & Bernstein, LLP, https://www.lieffcabraser.com/about-us/class-action-faq/ (last visited Mar. 12, 2017) [hereinafter *Action Attorney*] (agreeing that class actions help individuals get remedies from large and powerful entities).
[159] *See Class Actions*, Justia, https://www.justia.com/trials-litigation/class-actions/ (last visited Mar. 12, 2017) [hereinafter *Class Actions*] (combining resources lowers the financial costs and can amplify legal arguments).
[160] *See Action Attorney*, *supra* note 158 (confirming it makes little financial sense to bring an individual case against large businesses).
[161] *See id.* (pursuing class actions are effective measures of stopping wrongdoers from continuing their behavior).
[162] *See Class Actions*, *supra* note 159 (litigating class actions requires greater resources and time to reach a conclusion).
[163] *See In re* Oppenheimer Rochester Funds Grp. Sec. Litig., 2015 U.S. Dist. LEXIS 141073 at *15-16 (D. Colo. Oct. 16, 2015) (discussing the procedural history of the case).
[164] *Id.* at *25.
[165] *Id.* at *26-27.
[166] *Id.* at *27-28.
[167] *See id.* at *30-31 (discussing how proof of false or misleading statements must be established).
[168] *See id.* at *52-53 (ruling class action litigation is superior to any other form of adjudication in this case to prevent re-litigating cases and the high costs of individual litigation).
[169] *Id.* at *15-16.
[170] *See* Kevin LaCroix, *Thinking About Bondholder Securities Class Actions*, The D&O Diary (Feb. 20, 2015), http://www.dandodiary.com/2015/02/articles/securities-litigation/thinking-about-bondholder-securities-class-actions/ (explaining that bondholder class actions provide remedies for those mislead by issuers and may act a deterrent against similar action in the future).
[171] *See* Ludvigsen, *supra* note 69 (identifying that investors cannot point to a standard of care until regulations are made).
[172] *See* Abell v. Potomac Ins. Co., 858 F.2d 1104, 1109 (5th Cir. 1988).
[173] *See id.* at 1117-18 (ruling that the Plaintiff's must prove their reliance on false statements led to their investment in order to be compensated).
[174] *See id.* at 1118 (explaining that neither party demonstrated whether most of the class member relied upon the false statements).
[175] *See id.* at 1116-17 (holding the defendant's statements were indeed materially false because it advertised an investment as feasible when it was not)
[176] *See id.* at 1109 (showing that carrying out securities class actions can come at great expense for plaintiffs without that guarantee of compensation).
[177] *See generally* Sec. Class Action Clearinghouse, http://securities.stanford.edu/about-the-scac.html (last visited Mar. 12, 2017) (collecting information on court mandated securities class action settlements).
[178] *See* David Pierson, *PG&E Will Pay Residents Who Sued Over Groundwater Pollution*, L.A. Times (Feb. 4, 2006), http://articles.latimes.com/2006/feb/04/local/me-erin4 (reporting a $295 million settlement for class action victims of the defendant's pollution and cover-up).
[179] *See* Michael C. Gilleran, *The Rise of Unfair and Deceptive Trade Practice Act Claims*, Am. Bar Ass'n (Oct. 17, 2011), http://apps.americanbar.org/litigation/committees/businesstorts/articles/fall2011-unfair-deceptive-trade-practice-act-claims.html (awarding multiple settlements deters companies from committing business fraud by hurting their bottom line).
[180] *See* Zanki, *supra* note 5 (arguing despite the implementation of the GBP, a formalized standard is still needed).
[181] *See* Cooper, *supra* note 85 (recognizing the lack of a standard has created uncertainty).
[182] *See* Robinson-Tillett, *supra* note 112 (warning that issuers may take advantage of the lack of standard for financial gain).
[183] *See* Kapur, *supra* note 9 (cautioning that the market may depart from its intended purpose and lose credibility).
[184] *See* Robinson-Tillett, *supra* note 112 (asking for regulatory consistency before it's too late).
[185] *See generally* U.S. Sec. & Exch. Comm'n, About the Division of Enforcement, https://www.sec.gov/divisions/enforce/about.htm (last visited Mar. 12, 2017) (defining the SEC's enforcement role in the securities industry).
[186] *See* U.S. Dep't of Agric., *supra* note 116 (outlining the process for defining the term organic); *see also* U.S. Food & Drug Admin., *supra* note 116 (explaining how FDA defines organic).
[187] *See* U.S. Dep't of Agric., *supra* note 116; *see also* U.S. Food & Drug Admin., *supra* note 116 (describing the process for defining organic).
[188] Envtl. Prot. Agency, *supra* note 123.
[189] *See generally id.* (explaining how EPA handbooks can easily be replicated for the green bond industry).
[190] *See Safeguard Policies*, *supra* note 62 (explaining the World Bank's policies for monitoring the social and environmental impacts of its investments).

[191] *See* Kapur, *supra* note 9 (stressing the need for balance between regulation and market growth).
[192] *See generally* U.S. Sec. & Exch. Comm'n, *supra* note 185 (explaining the SEC's enforcement role in the securities industry).
[193] *See* Kapur, *supra* note 9 (arguing investors will seek out bonds that verify their own "greenness").
[194] *See* Int'l Cap. Mkts. Ass'n, *supra* note 13 (detailing the voluntary process guidelines for issuing green bonds).
[195] *See id.* at 3 (describing why the broad categories were selected).
[196] *See generally Water Climate Bonds Standard*, *supra* note 110 (proposing criteria for certifying bond offerings linked to water-related assets).
[197] *See* Pearce, *supra* note 70 (advocating against "clean coal" projects); *see also* Ali *GBA*, *supra* note 131 (debating the problems of allowing green bonds to fund water projects).
[198] *See* Int'l Cap. Mkts. Ass'n, *supra* note 13, at 2-3 (discussing pollution control projects and how to manage them).
[199] *See id.* at 3 (noting agriculture and fishery projects can be eligible if they can manage their sustainable and conservation impact).
[200] *See id.* (listing examples of eligible green bond conservation projects).
[201] *See id.* (listing clean transportation as a commonly used type of project supported by the green bond market).
[202] *See generally* Leed, *supra* note 30.
[203] *See* Intl Cap. Mkts. Ass'n, *supra* note 13, at 3 (listing energy efficient construction projects).
[204] *See* Cooper, *supra* note 85 (endorsing projects that align with government standards is beneficial).
[205] U.S. Dep't of Agric., Organic Labeling, https://www.ams.usda.gov/rules-regulations/organic/labeling (last visited Mar. 12, 2017).
[206] *See* Ali *Criteria*, *supra* note 132 (describing Moody's criteria for the GBA and scoring assessment).
[207] *See Climate Bond Standard*, *supra* note 22, at 11 (explaining important factors considered in the certification process).
[208] *See* Sarah Fister Gale, *Green Bonds: Are Your Projects a Good Fit?*, Water World, http://www.waterworld.com/articles/print/volume-31/issue-3/features/green-bonds-are-your-projects-a-good-fit.html (certifying green bonds will help municipalities signal to investors and stand apart from greenwashed projects).
[209] *See* Kapur, *supra* note 9 (noting that only two municipal issuers received external reviews in 2015).
[210] *See generally* Mun. Sec. Rulemaking Bd., *supra* note 142 (classifying the MSRB's role in the bond market).
[211] *See* Gale, *supra* note 208 (disclosing the environmental impact of projects creates trust with investors).
[212] *See* Ludvigsen, *supra* note 69 (explaining the risks associated with green fraud).
[213] *See* Int'l Cap. Mkts. Ass'n, *supra* note 13, at 2 (following the same core elements established in the GBP).
[214] Int'l Cap. Mkts. Ass'n, *supra* note 13 (recommending a high level of disclosure throughout the bonds maturation); *see also* Mun. Sec. Rulemaking Bd., *supra* note 147 (requiring municipal issuers to continuously disclose information).
[215] *See Municipal Bonds*, AXA Equitable Fin. Servs., https://us.axa.com/axa-products/investment-strategies/articles/municipal-bonds.html (June 2015) (explaining how municipal bonds differ from corporate bonds with serial maturities).
[216] *See* Cooper, *supra* note 85 (calling on the government to clarify and enforce eligible projects).
[217] *See* Int'l Cap. Mkts. Ass'n, *supra* note 13, at 3 (creating nine categories of eligible projects).
[218] *See id.* at 4 (allowing investors to compare green bonds based on the quality of their disclosed sustainability impact).
[219] Mun. Sec. Rulemaking Bd., Electronic Municipal Market Access (EMMA) Website, http://www.msrb.org/About-MSRB/Programs/EMMA.aspx (last visited Mar. 12, 2017).
[220] *See* Int'l Cap. Mkts. Ass'n, *supra* note 13, at 4 (pushing issuers to keep readily available information on the use of proceeds so issuers may track their investment's progress).
[221] *See* Swope, *supra* note 36 (calculating that the cost of an independent review ranges between $10,000 and $50,000).
[222] *See* Kapur, *supra* note 9 (relaying concerns that balance is needed to keep "investment oxygen" in the market).
[223] *See* Phillip Ludvigsen, *External Review of Green Bonds: Lessons Learned*, Envtl. Fin. (Oct. 14, 2016), https://www.environmental-finance.com/content/analysis/external-review-of-green-bonds-lessons-learned.html#refs (asserting that investors rely on information disclosed in the review process).
[224] *See* Iliana Lazarova, *The Wild West of Green Bonds*, Clean Energy Fin. F. (Mar. 2, 2016), http://www.cleanenergyfinanceforum.com/2016/03/02/the-wild-west-of-green-bonds (discussing how environmental impact, yield, and public confidence need to weighed by all market participants).
[225] *See id.* (indicating the responsibility placed on issuers, investors, banks, and regulators of reforming the market and allowing it to grow).
[226] *See Action Attorney*, *supra* note 158 (stating that conjoining lawsuits levels the playing field for persons against deep-pocketed defendants).
[227] *See id.* (emphasizing that little financial incentive exists to bring small individual claims against established defendants).
[228] *See* LaCroix, *supra* note 170 (explaining that paying out large settlements to defendants sends a signal to issuers to change their practices or face similar law challenges).
[229] *See* Ronald Barusch, *Dealpolitik: The Useful Corruption of Shareholder Lawsuits*, Wall St. J. (Jan. 13, 2011 1:28 PM), http://blogs.wsj.com/deals/2011/01/13/dealpolitik-the-useful-corruption-of-shareholder-lawsuits/ (asserting that fearing class action litigation is enough for businesses to make better decisions).
[230] *See Action Attorney*, *supra* note 158 (requiring separate lawsuits could risk varying decisions in different courts).
[231] *See In re* Oppenheimer Rochester Funds Grp. Sec. Litig., 2015 U.S. Dist. LEXIS 141073 at *23-24 (D. Colo. Oct. 16, 2015).
[232] *See* LaCroix, *supra* note 170 (providing that bondholder class actions provide remedies and act as deterrents for similar conduct from issuers).
[233] *See* Gilleran, *supra* note 179 (stating that granting multiple settlements deters fraud and leads to legitimate fair business practices).
[234] *See* Ludvigsen, *supra* note 69 (arguing that misleading investors with environmental claims could be seen as material to their investment decision and thus open the possibility of litigation).
[235] *See* Abell v. Potomac Ins. Co., 858 F.2d 1104, 1117-18 (5th Cir. 1988) (noting the difference between materially false information and class member reliance on that information).
[236] *See* Ludvigsen, *supra* note 69 (explaining the benefits of a "green" standard would have on setting industry good practices).
[237] *See* LaCroix, *supra* note 170 (finding four out of five of the largest securities class action between 1996 and 2005 involved bondholder recoveries, although it is unclear whether there is a causal relationship between the size of a class action and bondholder recovery).
[238] *See* CBI *History*, *supra* note 43 (reporting the story of the first green bond and its original purpose).
[239] *See* Zanki, *supra* note 5 (publishing green bond issuance at $42.4 billion in 2015).
[240] *See* Envtl. Fin. Staff, *Green Bond Comment–August 2016*, Envtl. Fin. (Sept. 2, 2016), https://www.environmental-finance.com/content/analysis/green-bond-comment-august-2016.html (discussing 2016 green bond issuance projections of up to $100 billion).
[241] *See* Freedman, *supra* note 78 (arguing more regulation is needed to protect the integrity of the market).
[242] Hank Paulson Jr., *How to Raise Trillions for Green Investments*, N.Y. Times (Sept. 20, 2016), http://www.nytimes.com/2016/09/20/opinion/how-to-raise-trillions-for-green-investments.html.

continued from page 25

against non-commercial risks, such as war and civil disturbance and the expropriation of assets).

21 Int'l Fin. Corp., Policy on Environmental and Social Sustainability 12 (2012), http://www.ifc.org/wps/wcm/connect/7540778049a792dcb87efaa8c6a8312a/SP_English_2012.pdf?MOD=AJPERES.

22 *See* Lewis, *supra* note 13, at 1.

23 Balaton-Chrimes & Haines, *supra* note 12, at 447.

24 Violet Benneker et al., Glass Half Full? The State of Accountability in Development Finance 14 (Caitlin Daniel et al. eds., 2016), http://grievancemechanisms.org/resources/brochures/IAM_DEF_WEB.pdf.

25 *See e.g.*, Daniel D. Bradlow, *International Law and Public Participation in Policy-Making*, *in* International Financial Institution and International Law, *supra* note 10, at 1, 29 ("These mechanisms, despite some concerns about their efficacy, have resulted in increased accountability for these institutions."); *see also* Kate MacDonald & May Miller-Dawkins, *Accountability in Public International Development Finance*, 6 Global Pol'y 429 (2015) ("Amidst an explosion of new global governance practices during the last quarter century, one of the most striking developments has been the rise of new norms and institutions of accountability."); Balaton-Chrimes & Haines, *supra* note 12 (noting that DFIs sought to "increase accountability to stakeholders while retaining their focus on industrialization and export-led economic growth.").

26 MacDonald & Miller-Dawkins, *supra* note 26, at 433.

27 *See* Saper, *supra* note 16, at 1293 (citing Richard B. Stewart, *Accountability Participation and the Problem of Disregard in Global Regulatory Governance* 2 (Sept. 2, 2009) (discussion draft), *available at* http://iilj.org/courses/documents/2008Colloquium.Session4.Stewart.pdf) (relying on Richard Stewart's global governance analysis, which defines accountability as "institutionalized mechanisms under which an identified account holder has the right to obtain an accounting from an identified accountant for his conduct, evaluate that conduct, and impose a sanction or obtain another appropriate remedy for deficient performance."); *id*. at 1293-94 (adopting this construction of "accountability," Saper indicates that the structure and procedures of the CAO fail to provide complete accountability, and he analyzes whether its functions are able to respond to broader problems of disregard in the absence of an accountability mechanism); s*ee generally* Richard B. Stewart, *Remedying Disregard in Global Regulatory Governance: Accountability, Participation and Responsiveness*, 108 Am. J. Int'l L. 211 (2014).

28 Saper*, supra* note 16, at 1281.

29 Balaton-Chrimes & Haines, *supra* note 12, at 447.

30 Office of the Compliance Advisor/Ombudsman (CAO), Operational Guidelines 8 (2013), http://www.cao-ombudsman.org/documents/CAOOperationalGuidelines_2013.pdf [hereinafter CAO Operational Guidelines].

31 *See id*. at 11 (examining three criteria in making this determination: (1) whether "[t]he complaint pertains to a project that IFC/MIGA is participating in, or is actively considering"; (2) whether the issues "pertain to CAO's mandate to address environmental and social impacts of IFC/ MIGA projects"; and (3) whether "[t]he complainant is, or may be, affected by the environmental and/or social impacts raised in the complaint." This assessment involves the CAO team visiting the project site, conducting town-hall-style meetings, and surveying relevant stakeholders at the local and national level); *see also* Office of the Compliance Advisor/Ombudsman (CAO), Lessons from CAO Cases: Land 19 (2015), http://www.cao-ombudsman.org/howwework/advisor/documents/cao_advisoryseries_land.pdf [hereinafter CAO Land Case Studies] (describing such assessments as they took place in Uganda, the Philippines, and Sumatra).

32 *See* CAO Operational Guidelines, *supra* note 31, at 9 (illustrating the parallels between the Compliance and Ombudsman functions).

33 CAO, 2015 Annual Report 12 (2015), http://www.cao-ombudsman.org/publications/documents/CAO_Annual_Report_2015.pdf.

34 CAO Operational Guidelines, *supra* note 31, at 4 ("[The] CAO has no authority with respect to judicial processes. [The] CAO is not an appeals court or a legal enforcement mechanism, nor is [the] CAO a substitute for international court systems or court systems in host countries.").

35 *See e.g.*, Office of the Compliance Advisor/Ombudsman (CAO), Building Hope and Health Through Dialogue: A Story of Company-Community Dispute Resolution in Nicaragua 1 (2016), http://www.cao-ombudsman.org/publications/documents/CAO_Nicaragua_REV_ENG.pdf (noting that "[t]hrough the dialogue process, stakeholders were able to focus on local, practical, effective, and sustainable outcomes for all [stakeholders] involved.").

36 Office of the Compliance Advisor/Ombudsman (CAO), A Journey Toward Solutions: A Story of Community-Company Dispute Resolution in Uganda 1 (2015), http://www.cao-ombudsman.org/publications/documents/CAODisputeResolutionSeries_JourneytowardSolutions_Uganda_October2015.pdf.

37 CAO 2015 Annual Report, *supra* note 34, at 8 (2015) http://www.cao-ombudsman.org/publications/documents/CAO_Annual_Report_2015.pdf.

38 Saper, *supra* note 16, at 1299.

39 *See* Deanna Kemp et al., *Just Relations and Company-Community Conflict in Mining,* 101 J. Bus. Ethics 93, 93 (2011).

40 CAO Operational Guidelines, *supra* note 31, at 16.

41 *Id.*

42 *Id*.

43 CAO 2015 Annual Report, *supra* note 34, at 12.

44 *See* CAO Operational Guidelines, *supra* note 31, at 4, 19 (noting that the CAO will "keep the compliance investigation open and monitor the situation until actions taken by [the] IFC/MIGA assure [the] CAO that [the] IFC/MIGA is addressing the noncompliance.").

45 *Id.* at 20.

46 *Id.*

47 *See* Office of the Compliance Advisor/Ombudsman (CAO), How We Work: Advisor, http://www.cao-ombudsman.org/howwework/advisor/index.html (last visited Apr. 17, 2017) (noting that the CAO "aims to improve performance in a systemic way and provide guidance to IFC and MIGA on emerging trends and strategic issues" based on its caseload and experience).

48 *See* CAO Land Case Studies, *supra* note 32, at 8-9.

49 *See e.g.*, The World Bank, Haiti: The Challenges of Poverty Reduction, http://go.worldbank.org/MZUS4TPRR0 (last visited Apr. 17, 2017).

50 *See* The World Bank, Haiti Overview*,* http://www.worldbank.org/en/country/haiti/overview (last visited Apr. 17, 2017) (using 2014 data).

51 *See* U.S. CIA, The World Factbook: Haiti, (last updated Jan. 12, 2017), https://www.cia.gov/library/publications/the-world-factbook/geos/ha.html (noting 80 percent of the population in Haiti lives below the poverty line, and 54 percent lives in abject poverty).

52 *See* N.Y.U. Global Justice Clinic & U. Cal. Haiti Justice Initiative, Byen Konte, Mal Kalkile, Human Rights & Envt'l Risks of Gold Mining in Haiti 2, 40-41 (2016), http://chrgj.org/wp-content/uploads/2015/12/byen_konte_mal_kalkile_human_rights_and_environmental_risks_of_gold_mining_in_haiti.pdf [hereinafter Konte], (discussing how exploiting minerals is part of Haiti's Poverty Reduction Strategy).

53 *See* Tate Watkins, *Curses of Aid and Gold in Haiti*, Medium (June 14, 2013), https://medium.com/@tatewatkins/curses-of-aid-and-gold-in-haiti-7a99bd074fc4#.85b5r0k86 (reporting that, in 2013, then-Prime Minister Laurent Lamothe remarked that "[t]he mining sector can help Haiti liberate itself"); *Asset Portfolio: Haiti*, Eurasian Minerals, http://www.eurasianminerals.com/s/haiti.asp (last visited Apr. 17, 2017) (stating that the Massif du Nord Metallogenic Belt in Haiti "hosts numerous gold, copper, copper-gold, and copper-gold-silver occurrences and prospects.").

54 *See* Konte, *supra* note 52, at 35 (noting that the recent interest in the resources in Haiti's North can be compared to the interest in extracting gold from the same mineral belt in neighboring Dominican Republic).

55 *See id.* at 2, 61-62 ("Between 2006 and early 2013, two Canadian and two U.S. companies reportedly invested more than $30 million to explore for gold, copper, silver, and other metals . . . . Those four companies—Majescor Resources Inc. (Majescor), VCS Mining LLC (VCS), Newmont Mining Corporation (Newmont), and Eurasian Minerals Inc. (Eurasian)—have all conducted exploration activities, including core sampling, in some of their permit areas, as well as other exploration and prospection activities.").

56 *See* Int'l Fin. Corp., IFC Project Information Portal: Eurasian Minerals Inc. 2, https://disclosures.ifc.org/#/projectDetailSPI/7389 (last visited Apr. 17, 2017) (stating that the development benefits could include "both revenues/foreign exchange contribution to the national economy and development of vital transportation/energy infrastructure that would improve possibilities for other economic activities").

[57] *Id.* at 1. (noting that the IMF's equity investment in Eurasian was also intended to support Eurasian's Akarca and Sisorta gold exploration projects in Turkey).

[58] *See id*.; *see also* Maura R. O'Connor, *Two Years Later, Haitian Earthquake Death Toll in Dispute*, Columb. Journalism Rev. (Jan 12. 2012), http://www.cjr.org/behind_the_news/one_year_later_haitian_earthqu.php (highlighting the discrepancy between the Haitian government's official death toll of 316,000 and the initial death toll report indicating 230,000 deaths).

[59] *See* The World Factbook: Haiti, *supra* note 52.

[60] Adriana Gomez & Josef Skoldeberg, *IFC Invests in Eurasian Minerals Supporting Haiti's Recovery and Job Creation*, Int'l Fin. Corp. (Feb. 19, 2010), http://ifcext.ifc.org/ifcext/pressroom/ifcpressroom.nsf/0/1fd6671e5e82770a852576d200501301?opendocument.

[61] *Id.*

[62] *See Asset Portfolio: Haiti*, *supra* note 54 ("EMX executed the royalty generator business model in Haiti by recognizing the country's excellent, but under-explored mineral potential and taking advantage of 'early mover' opportunities in 2006.").

[63] *See id.* (describing the joint venture as a "Regional Strategic Alliance" between the two companies).

[64] *See* Konte, *supra* note 52, at 67 (reporting that the six Joint Venture Designated Projects include: La Miel, La Mine, the North-Central Haiti Venture, the Northwest Haiti Venture, the Northeast Haiti Venture, and the Grand Bois "Surrounding Properties" Venture, but the Grand Bois project remained outside the scope of the joint venture agreement and was wholly owned and operated by Eurasian until 2016).

[65] *Id.* at 2.

[66] *Id.* at 23.

[67] *Asset Portfolio: Haiti*, *supra* note 54.

[68] *Id.* (Sono Global Holdings Inc.).

[69] *Id.*

[70] IFC Project Information Portal: Eurasian Minerals Inc., *supra* note 57.

[71] Int'l Fin. Corp., Performance Standards on Environmental and Social Sustainability 2 (Jan. 1, 2012), http://www.ifc.org/wps/wcm/connect/c8f524004a73daeca09afdf998895a12/IFC_Performance_Standards.pdf?MOD=AJPERES [hereinafter Environmental and Social Sustainability Standards] (stating that "in the case of its direct investments, IFC *requires* its clients to apply the Performance Standards to manage environmental and social risks and impacts so that development opportunities are enhanced" (emphasis added)).

[72] *See* IFC Project Information Portal: Eurasian Minerals Inc., *supra* note 57 (defining a Stakeholder Engagement Plan as a plan designed and implemented by the client "that is scaled to the project risks and impacts and development stage" and "tailored to the characteristics and interests of the Affected Communities."); *see also* Envt'l & Social Sustainability Standards, *supra* note 72, at 13 (including within the plan strategies to engage the disadvantaged and vulnerable populations).

[73] IFC Project Information Portal: Eurasian Minerals Inc., *supra* note 57.

[74] *See* discussion *infra* Part III.b. (referring to "Eurasian's" activities, which includes its participation in the Newmont-Eurasian joint venture as well as the company's activities at the Grand Bois project site, making the distinction only where it is factually and legally relevant).

[75] *See* Konte, *supra* note 53 at 37-38 (defining exploration activities as all activities conducted under prospection or research permits granted to Newmont-Eurasian in Haiti. For an explanation of the different types of mining permits under Haiti's Mining Decree of 1976).

[76] *See* IFC Project Information Portal: Eurasian Minerals Inc., *supra* note 57 (encompassing Eurasian's exploration activities to include: dust and noise control; water management, including drainage, trenches, drilling pads, and access roads rehabilitation; use of forested and agricultural land for exploration; and, if warranted, development, occupational health and safety, visual impacts and community safety); *see generally* Envt'l & Social Sustainability Standards, *supra* note 72 (discussing the IFC's calculation of project risk).

[77] *Id*. at 5-15, 31-39 (highlighting Performance Standard 1, "Assessment and Management of Environmental and Social Risks and Impacts" and Performance Standard 5, "Land Acquisition and Involuntary Resettlement").

[78] *See* Konte, *supra* note 53, at 209-11 (explaining the matter of private land ownership in Haiti is not straightforward, as patterns of land use and ownership that exist outside of formal legal title are complex. For a thorough description of land governance in Haiti, For the purpose of this analysis, "landowners" will encompass landowners, landholders, and land users alike).

[79] *Id*. at 212.

[80] *Id*. (drawing the data contained in the report from several fact-finding investigations between 2012 and 2015. Although the author of this article did not accompany researchers on any such investigations in Haiti, she is a contributing author of the report).

[81] *Id*. at 212 (collecting the following data about the communities of La Montagne during numerous GJC fact finding visits).

[82] *Id.* at 14.

[83] *Id.* at 212.

[84] *Id.* at 245 n.125 (noting the Global Justice Clinic was unable to verify exactly how many agreements have been signed. The authors' best estimation, based on an analysis of the enumerations on the documents themselves and interviews with individuals familiar with the effort to obtain such agreements, is that several hundred have been signed).

[85] *See id.* at 212, 205-296 (exploring what "Free, Prior and Informed Consent" might look like in the context of mining-affected communities in Haiti).

[86] *Id.* at 214.

[87] *Id.*

[88] *See id.* at 215.

[89] *See id.* at 213.

[90] *Id.* at 215.

[91] *See id.*

[92] *Id.* at 216; *see also* GJC Notes of Community Meeting with Residents of La Montagne, in Northwest Department, Haiti (May 15, 2014) (on file with the New York University School of Law Global Justice Clinic).

[93] Konte, *supra* note 53, at 216. *But see id.* at 263 (noting that the Land Access Agreement reserved the right of the company to hire the landowner to work on the property, but there was no guarantee of such employment).

[94] *Id.* at 216.

[95] *Id.* at 216.

[96] *Id.*

[97] *Id.* at 219.

[98] *Id.* at 218.

[99] *Id.*

[100] Letter from Nicholas Cotts, External Relations Group Executive for Newmont Mining Corporation, and David Cole, President and CEO of Eurasian Minerals Inc., to Margaret Satterthwaite, Director, Global Justice Clinic, at 6 (Apr. 1, 2015) (on file with the New York University School of Law Global Justice Clinic).

[101] Environmental and Social Sustainability Standards, *supra* note 72, at 7-9.

[102] *Id.*

[103] IFC Project Information Portal: Eurasian Minerals Inc., *supra* note 57.

[104] *See* Email from IFC to student, Global Justice Clinic (Apr 15, 2015, 2:04 PM EST) (on file with the New York University School of Law Global Justice Clinic) (disclosing the GJC lodged information disclosure requests with the IFC related to the Newmont-Eurasian joint venture, which the IFC denied on April 15, 2015. GJC appealed the denial and the IFC responded that under its 2006 information disclosure policy, the IFC is not required to disclose the documents that GJC requested); *see also* Email from Karen Finkelston to Margaret Satterthwaite, Director, Global Justice Clinic (May 29, 2015, 5:59 PM EDT) (on file with the New York University School of Law Global Justice Clinic) (showing that Newmont-Eurasian provided GJC with an informal summary of baseline efforts, but did not include information related to the joint venture's stakeholder engagement or consultation processes).

[105] *See* Office of the Compliance Advisor/Ombudsman, Compliance Appraisal Report: Summary of Results: IFC Investment in Lydian International Ltd. Complaint 02 (Project #27657), Armenia 8 (2015), http://www.cao-ombudsman.org/cases/document-links/documents/CAOCompliance_AppraisalReport_Armenia_Lydian-02_10222015forweb_English.pdf. [hereinafter CAO Compliance Appraisal Report Summary Compl. 2] (explaining the CAO's compliance appraisal of Lydian International Ltd.'s stakeholder engagement, triggered after a complaint was submitted to the CAO).

[106] Konte, *supra* note 53, at 217.

[107] *Id.* at 216.

[108] *Id.* at 217.

[109] Envt'l & Social Sustainability Standards, *supra* note 72, at 12.

[110] Konte, *supra* note 53, at 212.

[111] *See id.* at 213; *see also* Letter from Nicholas Cotts, External Relations Group Exec. for Newmont Mining Corp., and David Cole, President and CEO of Eurasian Minerals Inc., to Margaret Satterthwaite, Dir., Global Justice Clinic, at 6 (Apr. 1, 2015) (on file with the N.Y.U. School of Law Global Justice Clinic).

[112] *See* Environmental and Social Sustainability Standards, *supra* note 72, at 3.
[113] *See id.* at 7.
[114] *See id.* at 14, 47-52 ("For projects with adverse impacts to Indigenous Peoples, the client is required to engage them in a process of ICP and in certain circumstances the client is required to obtain their Free, Prior, and Informed Consent (FPIC). The requirements related to Indigenous Peoples and the definition of the special circumstances requiring FPIC are described in Performance Standard 7.").
[115] *See id.* at 14 (noting that the ICP process can be distinguished from ordinary consultation requirements under PS1, as it involves a more in-depth exchange of views, and ultimately leads to the company incorporating the views of affected-communities into their decision-making processes).
[116] *See id.* at 48-52 (explaining the requirements for engaging indigenous people and the special circumstances requiring FPIC).
[117] IFC Project Information Portal: Eurasian Minerals Inc., *supra* note 57.
[118] Envt'l & Social Sustainability Standards, *supra* note 72, at 13.
[119] *See id.* at 14.
[120] *See* Konte, *supra* note 53, at 216-219.
[121] Int'l Fin. Corp., Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets 111, 115 (2007), http://www.ifc.org/wps/wcm/connect/938f1a0048855805beacfe6a6515bb18/IFC_StakeholderEngagement.pdf?MOD=AJPERES [hereinafter Stakeholder Engagement].
[122] *See* Konte, *supra* note 53, at 218.
[123] *See id.* at 219.
[124] *See id.* at 219 ("Nothing was promised outside of the agreement in return for a signature. There was also no anticipation that any resident would be displaced by our exploration activities and thus, nothing was ever promised in that regard.").
[125] Stakeholder Engagement, *supra* note 122, at 111.
[126] *Id.* at 113.
[127] *See id.* at 115.
[128] *See id.* at 117.
[129] *See* Konte, supra note 53, at 228.
[130] *Id.* at 136, 217.
[131] Envt'l & Social Sustainability Standards, *supra* note 72, at 13.
[132] *Id.*
[133] *Id.* at 10.
[134] Int'l Fin. Corp., Guidance Note 5: Land Acquisition and Involuntary Resettlement 16 (Jan. 1, 2012), http://www.ifc.org/wps/wcm/connect/4b976700498008d3a417f6336b93d75f/Updated_GN5-2012.pdf?MOD=AJPERES.
[135] Konte, *supra* note 53, at 216-219.
[136] *Id.* at 217.
[137] Environmental and Social Sustainability Standards, *supra* note 72, at 13.
[138] *Id.*
[139] Int'l Fin. Corp., Guidance Note 1: Assessment and Management of Environmental and Social Risks and Impacts 32 (2012), http://www.ifc.org/wps/wcm/connect/b29a4600498009cfa7fcf7336b93d75f/Updated_GN1-2012.pdf?MOD=AJPERES.
[140] Konte, *supra* note 53, at 221.
[141] *Id.* at 212 ("Evidence from La Montagne also reveals that Haitian government officials were notably absent; resident accounts indicate that the government failed to effectively inform the local population about mining prior to Newmont-Eurasian's arrival and failed to support rural farmers as they negotiated access to their land.").
[142] Letter from Nicholas Cotts, External Relations Group Executive for Newmont Mining Corporation, and David Cole, President and CEO of Eurasian Minerals Inc., to Margaret Satterthwaite, Director, Global Justice Clinic, at 6 (Apr. 1, 2015) (on file with the New York University School of Law Global Justice Clinic).
[143] Konte, *supra* note 53, at 217.
[144] *See* N.Y.U. Global Justice Clinic et al., *Access to Information in Haiti: Obstacles to the Enjoyment of the Right to Access Information in the Context of the Development and Mining and Tourism Industries and the Practice of Journalism*: *Executive Summary of Submission to the Inter-American Commission on Human Rights* (Mar. 17, 2015), http://chrgj.org/wp-content/uploads/2015/03/150316_Executive-Summary_English_Final.pdf (highlighting in 2015, the GJC, together with Haitian partners, made a submission to the Inter-American Court of Human Rights explaining the impact of the Haitian government's failure to guarantee the effective enjoyment of the right of access to information in the context of the development of mining and tourism industries on project-affected communities); *see also* Konte, *supra* note 53, at 205 (noting the Haitian government failed to appear the hearing).
[145] *See* International Covenant on Civil and Political Rights, *opened for signature* Dec. 16, 1966, 999 U.N.T.S. 171, 178 (entered into force Mar. 23, 1976); *see also* Konte, *supra* note 53, at 235 n.5 (noting that the International Covenant on Economic and Social Rights has been interpreted to include the right of access to information in relation to specific substantive rights, such as the right to health and the right to water).
[146] *See* Constitution of Haiti, March 10, 1987, tit. 3, ch. 2, § I, art. 40, pmbl. (articulating the government's duty to publish "all laws, orders, decrees, international agreements, treaties, and conventions" in both Creole and French. and recognizing "the right to progress, information, education, health, employment, and leisure for all citizens.").
[147] Office of the Special Rapporteur for Freedom of Expression, The Right of Access Information para. 22 (2009), http://www.oas.org/dil/access_to_information_IACHR_guidelines.pdf.
[148] Byen Konte, Mal Kalkile?, *supra* note 53, at 200.
[149] *Id.* at 211.
[150] *See* Saper, *supra* note 16, at 1322 (noting that the CAO was developed in response to a lack of accountability); Bradlow, *supra* note 26, at 28 ("Nevertheless, it would seem that these mechanisms, despite some concern about their efficacy, have resulted in increased responsibility for these institutions.").
[151] *See* Konte, *supra* note 53, at 221.
[152] Environmental and Social Sustainability Standards, *supra* note 72, at 35 ("Where there are Affected Communities, the client will establish a grievance mechanism to receive and facilitate resolution of Affected Communities' concerns and grievances about the client's environmental and social performance.").
[153] Guidance Note 1, *supra* note 139, at 37.
[154] *See id.* (noting that "businesses should respect human rights, which means to avoid infringing on the human rights of others and address adverse human rights impacts business may cause or contribute to . . . ."); *see also* Special Representative of the Secretary General, *Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework*, U.N. Doc. A/HRC/17/31 (Mar. 21, 2011), www2.ohchr.org/english/bodies/hrcouncil/docs/17session/A.HRC.17.31_en.pdf (clarifying that although this does not specifically endorse the United Nation's Guiding Principles on Business and Human Rights, the principles established by U.N. Special Representative, John Ruggie, is now widely accepted as the authoritative framework for business' responsibility towards human rights).
[155] *See* Konte, *supra* note 53, at 221 (noting that "[i]n response to GJC requests for information about its community grievance mechanism, Newmont-Eurasian sent general information, from publicly available reports, about its grievance procedures at other mining sites.").
[156] *Id.*
[157] CAO Operational Guidelines, *supra* note 31, at 11 (explaining that complaints may be made by those who "believe they are, or may be, affected by the social and environmental impacts of IFC/MIGA projects").
[158] *See* Anthony Bebbington et al., *Mining and Social Movements: Struggles Over Livelihood and Rural Territorial Development in the Andes*, 36 World Dev. 2888, 2892 (2008).
[159] *Id*. at 2890.
[160] *Id*.
[161] *Id*. at 2892.
[162] CAO Operational Guidelines, *supra* note 31, at 10.
[163] *See id.* (requiring complainants need only state the way(s) in which they believe to have been, or are likely to be, affected by environmental and/or social impacts of the project); *see also* CAO 2015 Annual Report, *supra* note 34, at 79 (noting in practice, 52 percent of complaints handled by the CAO have explicitly cited human rights or rights-based issues).
[164] *See* CAO Operational Guidelines, *supra* note 31, at 10 (indicating the CAO Operational Guidelines prompt only that a complainant "may wish" to include, inter alia, information as to "What has been done by the complainant to attempt to resolve the problem, including specifically any contact with IFC/MIGA staff, the client, or host government.").
[165] *Id.*
[166] *See* Konte, *supra* note 53, at 216-19 (highlighting the experiences of La Montagne residents).
[167] *See generally id.*

[168] *Id.* (drawing on the GJC's research conducted via roundtable interviews in affected areas to conclude that Haitians have little knowledge of Eurasian and the IFC).

[169] Office of the Compliance Advisor/Ombudsman (CAO), 2008-2009 Annual Report 37 (2009) http://www.caoombudsman.org/publications/documents/CAO2009AnnualReportEnglish_low.pdf.

[170] *Id.* at 3.

[171] *See* Office of the Compliance Advisor/Ombudsman (CAO), CAO Update (2016), http://www.cao-ombudsman.org/publications/documents/CAONewsletterIssue2_FY2016Q2_Web.pdfhttp://www.cao-ombudsman.org/documents/CAONewsletterIssue2_FY2016Q2_Web_001.pdf (explaining that in 2015, the CAO undertook an outreach meeting with CSOs from Myanmar via video, and they discussed the role of the CAO and the Inspection Panel for communities affected by the World Bank Group's growing portfolio in Myanmar).

[172] *See* CAO 2015 Annual Report, *supra* note 34, at 50 (explaining that in 2015, CAO met with civil society representatives from Haiti).

[173] *See* CAO Operational Guidelines, *supra* note 31, at 10 (listing available languages as English, French, Portuguese, Spanish, Russian, Chinese and Arabic but not including Creole).

[174] *See* Benneker, *supra* note 25, at 56 (advocating requirements for communication with project-affected people); *see also* Saper, *supra* note 16, at 1318 (arguing that despite increasing costs of borrowing from the IFC due to language, cultural, and geographical barriers, such a policy is "nevertheless absolutely necessary in order for the IFC/MIGA to be more responsive to protect affected communities.").

[175] Lewis, *supra* note 13, at 12.

[176] CAO 2015 Annual Report, *supra* note 34, at 65.

[177] Margaret E. Keck & Katherine Sikkink, Activists Beyond Borders: Advocacy Networks in International Politics 1 (1998).

[178] *Id.* at 2.

[179] *See e.g.*, Balaton-Chrimes & Haines, *supra* note 12, at 446 (detailing the spectrum of accountability demands which are held by project affected peoples ranging from "immanent complaints" about how projects may proceed to "contestational grievances" as to whether projects should proceed at all).

[180] Keck & Sikkink, *supra* note 178, at 2.

[181] Lewis, *supra* note 13, at 10.

[182] CAO 2015 Annual Report, *supra* note 34, at 73.

[183] *Id.*

[184] *See* David Hunter, *Using the World Bank Inspection Panel to Defend the Interests of Project-Affected People*, 2 Chi. J. Int'l L. 201, 205–06 (2003) (exemplifying the preference by the World Bank Inspection Panel Procedure, which deliberately disallows CSOs from filing complaints on behalf of affected communities); *see also* Accountability Counsel, Communities, http://www.accountabilitycounsel.org/communities/ (last visited Apr. 17, 2016) (presenting the role of Accountability Counsel, an international NGO that primarily assists project-affected communities to file complaints with IAMs and enhance accountability in development finance, adopts a strong "community-centered" approach which focuses on training local communities about their options for addressing human rights and environmental abuses associated with internationally-financed projects—and ultimately seeks to place communities in a position to defend their own rights. Attorneys from Accountability Counsel also met with Haitian mining justice advocates in the USA, in February 2014, to discuss communities' potential recourse to the CAO, though this was done after the exploration projects had been placed in care and maintenance status).

[185] CAO 2015 Annual Report, *supra* note 34, at 50 (noting that the CAO met with civil society representatives from Haiti in 2015 after the IFC had completed its investment in Eurasian).

[186] IFC Project Information Portal: Eurasian Minerals Inc., *supra* note 7.

[187] *See* Brian Concannon Jr. & Beatrice Lindstrom, *Cheaper, Better, Longer-Lasting: A Rights-Based Approach to Disaster Response in Haiti*, 25 Emory Int'l L. Rev. 1145, 1145, 1152 (2011).

[188] *Id.* at 1156; Madeline Kristoff & Liz Panarelli, *Haiti: A Republic of NGOs?*, 23 U.S. Inst. of Peace 1 (2010), https://www.usip.org/sites/default/files/PB%2023%20Haiti%20a%20Republic%20of%20NGOs.pdf ("Estimates of the number of nongovernmental organizations (NGOs) operating in Haiti prior to the earthquake range from 3,000 to as many as 10,000."); *see also* Mark Schuller, *Invasion or Infusion?: Understanding the Role of NGOs in Contemporary Haiti*, 13 J. Haitian Stud. 96, 96 (2007) ("It is impossible to discuss development in Haiti without talking about [NGOs].").

[189] Concannon Jr. & Lindstrom, *supra* note 188, at 1145 (remarking that the vast amount of funding went to international humanitarian NGOs, rather than domestic NGOs).

[190] *Id.*

[191] *See* Statement by Professor Philip Alston, Special Rapporteur on Extreme Poverty and Human Rights, Seventy-First Session of the U.N. G.A. (Oct. 25, 2016), http://chrgj.org/wp-content/uploads/2014/07/Alston-GA-3rd-Cee-statement-25-October-FINAL.pdf.

[192] *See, e.g.*, Anam Salem, *At UN peer review, Haiti Urged to Ensure Respect for Human Rights as it Considers Development of Mining Sector*, N.Y.U. Ctr. for Hum. Rts. & Global Just. (Dec. 2, 2016), http://chrgj.org/at-un-peer-review-haiti-urged-to-ensure-respect-for-human-rights-as-it-considers-development-of-mining-sector/ ("In November 2016, the GJC and its Haitian partner, the Kolektif Jistis Min (KJM), attended Haiti's Universal Periodic Review (UPR) before the United Nations Rights Council in Geneva, to urge states to address the human rights risks of mining in Haiti during the review.").

[193] *See, e.g.*, Anam Salem, *Global Justice Clinic Conducts Survey Planning Trip to Northern Haiti*, N.Y.U. Ctr. for Hum. Rts. & Global Just. (Mar. 1, 2016), http://chrgj.org/global-justice-clinic-conducts-survey-planning-trip-to-northern-haiti/.

[194] Byen Konte, Mal Kalkile?, *supra* note 53, at 107 n.12 (citing a number of meetings undertaken by the GJC with residents of La Montagne, Patricko, Dity, Grand Bois and Esterè throughout 2013-2014) (Notes of those community meetings on file with the New York University School of Law Global Justice Clinic).

[195] *See The Human Rights Defenders Series Presents "Understanding Haiti Today: Human Rights, the Resource Curse, and the Plunder of Poverty: A Talk with Nixon Boumba of the Haiti Mining Justice Collectiv*e", N.Y.U. Ctr. for Hum. Rts. & Global Just. (Feb. 7, 2014), http://chrgj.org/event/the-human-rights-defenders-series-presents-understanding-haiti-today-human-rights-the-resource-curse-and-the-plunder-of-poverty-a-talk-with-nixon-boumba-of-the-haiti-mining-justice-collec/ ("In Spring and Fall 2013, the GJC sent teams to visit mining exploration areas near Cap-Haitien in conjunction with the Kolektif Jistis Min. There, they held community meetings to discuss potential rights impacts of mining. These meetings included screenings of a video "postcard" made by GJC students that conveyed advice and shared experiences from a mining-impacted community in Papua New Guinea, the site of another GJC project.").

[196] *See Remedying Violations and Advancing Rights in Haiti's Emerging Mining Sector*, N.Y.U. Ctr. for Hum. Rts. & Global Just., http://chrgj.org/clinics/global-justice-clinic/economic-social-and-cultural-rights/preventing-violations-and-advancing-rights-in-haitis-emerging-mining-sector/ (last visited Apr. 17, 2017) (collecting data by Community Water Agents every month since May of 2015 to monitor changes in water quality in six to eight communities where companies have explored for metals in Haiti). *Cf.* Ellie Happel, *Water is More Valuable than Gold*, NACLA (Apr. 25, 2016), http://nacla.org/news/2016/04/25/water-more-valuable-gold (conducting a mixed-methods, GJC rights-based study to produce data about the availability, accessibility, acceptability, affordability, and quality of water in communities likely to be directly impacted by commercial gold mining in Haiti).

[197] *See* N.Y.U. Ctr. for Hum. Rts. & Global Just. et al., *Human Rights Impacts of Gold Mining in Haiti*, (Nov. 7-9, 2016), http://chrgj.org/wp-content/uploads/2016/03/Human-Rights-Impacts-of-Gold-Mining-in-Haiti.pdf ("Haitian communities affected by mining activity have organized to learn more about the industry and to discuss how the development of the sector may affect their futures."); Inter-Am. Comm'n on H.R., Rep. on the 154th Sess. of the IACHR, at 12 (Mar. 13-27, 2015), http://www.oas.org/es/cidh/prensa/docs/Report-154.pdf.

[198] *See* IFC Project Information Portal: Eurasian Minerals Inc., *supra* note 7.

[199] These impressions were drawn from discussions with community organizers held by the GJC.

[200] *See e.g.*, Accountability Counsel, Amplifying Voices Defending Rights 11 (2015), http://www.accountabilitycounsel.org/wp-content/uploads/2012/05/2012-15-AC-Report.pdf (noting that various NGOs are helping nomadic goat herders in Mongolia file complaints with both the CAO and the IAM by training the herders on negotiation techniques and preparing the herders for the "intensive dialogue process" facilitated by the CAO); *see also* Office of the Compliance Advisor/Ombudsman (CAO), Memorandum of Understanding Relating to the Establishment of a Tripartite Council (June 8, 2015), http://www.cao-ombudsman.org/cases/document-links/documents/FinalSignedMoUwithAnnexures_ENG.pdf (highlighting that representatives from the herder communities are now engaged in an ongoing Tripartite Council, mediated by the CAO, which undertakes compensation working groups, joint fact finding exercises with Rio Tinto, and participatory water monitoring).

[201] While the end result of the CAO's compliance function could be a recommendation, by the CAO to the IFC that it should divest from the project this rarely occurs–and would not necessarily lead to the entire project being halted.
[202] Samantha Balaton-Chrimes & Fiona Haines, *The Depoliticisation of Accountability Processes for Land-Based Grievances, and the IFC CAO*, 6 Global Pol'y 446 (2015).
[203] Balaton-Chrimes & Haines, *supra* note 12, at 446, 448.
[204] *See id.* at 4447
[205] *See* Int'l Fin. Corp., Project Information Portal: Lydian Int'l 3 https://disclosures.ifc.org/#/projectDetailESRS/384 (last visited Apr. 17, 2017) ("The main driver for IFC equity investment involvement is the support of Lydian's development of the Drazhnje and Amulsar exploration projects, as a basis for setting benchmarks on sustainability in resource development in Kosovo and Armenia. IFC's second equity investment will be used primarily to fund the continued exploration of Lydian's mineral resource properties in Kosovo and Armenia, including feasibility studies, environmental and social impact assessments and other preparatory activities.").
[206] *See* Int'l Fin. Corp., Cases: Armenia/Lydian Int'l 3, http://www.cao-ombudsman.org/cases/case_detail.aspx?id=222 (last visited Apr. 17, 2017) ("[The] IFC is a 7.9% shareholder and has invested over $16 million in stages since 2007.").
[207] *Id.*
[208] Office of the Compliance Advisor/Ombudsman (CAO), Dispute Resolution Conclusion Report in Lydian Int'l 3-02/Gndevaz, Armenia 2 (Aug. 2015), http://www.cao-ombudsman.org/cases/document-links/documents/LydianIntl3-02_ConclusionReport_ENG.pdf.
[209] IFC Cases, *supra* note 207.
[210] Office of the Compliance Advisor/Ombudsman (CAO), Compliance Appraisal Report: IFC Investment in Lydia Int'l ltd. (Project #27657), Armenia, Complaint 01, 12 (2015), http://www.cao-ombudsman.org/cases/document-links/documents/CAOCompliance_AppraisalReport_Armenia_Lydian-01_042715-English.pdf.
[211] Office of the Compliance Advisor/Ombudsman (CAO), Terms of Reference 2 (Jan. 8, 2016), http://www.cao-ombudsman.org/cases/document-links/documents/ToRforLydianInvestigation-08-Jan2016.pdf.
[212] *See supra* notes 40-50 and accompanying text.
[213] *See* Office of the Compliance Advisor/Ombudsman (CAO), Compliance Appraisal: Summary of Results: IFC Investment in Lydian International Ltd. (Project #27657), Armenia, Complaint 02 8 (2015), http://www.cao-ombudsman.org/cases/document-links/documents/CAOCompliance_Appraisal-Report_Armenia_Lydian-02_10222015forweb_English.pdf (suggesting that the IFC's supervision of the project was insufficient, particularly in light of the fact that Lydian International was operating through a joint venture agreement with Newmont); *see also* CAO Compliance Appraisal Report Lydian Int'l, *supra* note 209 (noting that Newmont's investment in the project "should provide comfort regarding the quality of Lydian's management team and assets as well as assurance that Lydian's assets would be developed in line with industry best practice.").
[214] *See e.g.*, Mariel Aguilar-Støen & Cecile Hirsch, *Environmental Impact Assessments, Local Power and Self-Determination: The Case of Mining and Hydropower Development in Guatemala*, 2 Extractive Indus. & Soc'y 472, 478 (2015).
[215] *See id.* at 477.

Endnotes: Batteries Included: Incentivizing Energy Storage

continued from page 39

[36] *See id*. at 54 (defining the problem of "Resource Management" as the "potential for over-generation by variable [renewable] resources during off-peak periods when there is sufficient load to accommodate such generation").
[37] *See* Johnston, *supra* note 26, at 51-52.
[38] *See generally* Mathias Aarre Maehlum, *Grid Energy Storage*, Energy Informative (May 3, 2013), http://energyinformative.org/grid-energy-storage-caes-pumped-hydro-and-flywheel/. (discussing how this is already possible with some technologies such as compressed air energy storage (CAES) and pump-storage hydroelectricity. However, these technologies have their limitations, including deployment in locations with certain existing geological features which they require to store the large amounts of air or water which are necessary to generate power at scale).
[39] *See* Joseph B. Treaster and Kate Zernike*, Hurricane Katrina Slams Into Gulf Coast; Dozens Are Dead*, N.Y. Times, (Aug. 30, 2005), http://www.nytimes.com/2005/08/30/us/hurricane-katrina-slams-into-gulf-coast-dozens-are-dead.html.
[40] *See* Jim Polson and Mark Chediak, *Sandy's Blackouts Fall to 1.9 Million, Half in New Jersey,* Bloomberg, (Nov. 12, 2012), http://www.bloomberg.com/news/articles/2012-11-04/sandy-s-blackouts-fall-to-2-5-million-with-new-jersey-worst-off.
[41] *See Hurricane Sandy Boosts Generac Sales, Earnings Power,* Investor's Bus. Daily (June 28, 2013), http://www.nasdaq.com/article/hurricane-sandy-boosts-generac-sales-earnings-power-cm256506 (stating that Hurricane Irene and other storms convince people to purchase generators).
[42] Peter Kayode Oniemola, *Integrating Renewable Energy into Nigeria's Energy Mix through the Law: Lessons from Germany*, 2 Renewable Energy L. & Pol'y Rev. 29, 29 (2011); *see* Lucy Butler & Karsten Neuhoff, *Comparison of Feed-in Tariff, Quota and Auction Mechanisms to Support Wind Power Development*, 33 Renewable Energy 1854, 1858 (2008) (indicating an installed wind energy capacity in Germany of 20,622MW by the end of 2006).
[43] *See* Butler, *supra* note 43, at 1864 (stating that the strong competition among developers could have led to more share in the profits for landowners).
[44] *See id.* at 1863 (describing German turbine manufacturer presence in the domestic and international market).
[45] *See generally* Tesla Powerwall, https://www.teslamotors.com/powerwall (last visited Apr. 27, 2017).
[46] *See, e.g., U.S. Department of Energy Launches $40 Million Effort to Improve Materials for Clean Energy Solutions*, U.S. Dep't of Energy (Feb. 24, 2016), http://energy.gov/articles/us-department-energy-launches-40-million-effort-improve-materials-clean-energy-solutions (announcing a new U.S. Department of Energy initiative that aims to bring clean energy materials to market more quickly in order to "give American entrepreneurs and manufacturers a leg up in the global race for clean energy").
[47] *See* Tesla, *supra* note 46 (showcasing Tesla's Powerwall system).
[48] *See, e.g.*, Ucilia Wang, *12 Energy Storage Startups To Watch in 2015*, Gigaom, (Jan. 22, 2015, 7:00 AM), https://gigaom.com/2015/01/22/12-energy-storage-startups-to-watch-in-2015/
[49] *See generally* Zachary Shahan, *US Solar + Storage Market to Go Beyond $1 Billion a Year by 2018*, Clean Technica (Dec. 18, 2014), http://cleantechnica.com/2014/12/18/solar-storage-market-go-beyond-1-billion-year-2018/ (discussing a report by GTM Research, predicting that the U.S. "will install 328 MW of behind-the-meter energy storage by 2018").
[50] *See* Amy L. Stein, *Reconsidering Regulatory Uncertainty: Making a Case for Energy Storage*, 41 Fla. St. U. L. Rev. 697, 698-701 (2014) (indicating technological and financial concerns facing DES).
[51] *See Press Kit*, Tesla Motors (2016), https://www.teslamotors.com/presskit/teslaenergy.
[52] *See* Terry DeVitt, *Lithium Battery Catalyst Found to Harm Key Soil Microorganism*, PhysOrg (Feb. 4, 2016), http://phys.org/news/2016-02-lithium-battery-catalyst-key-soil.html (explaining environmental dangers posed by lithium batteries); *see also Airlines Ban Hoverboards over Battery Danger*, 10News (Dec. 11, 2015), http://www.wtsp.com/story/news/2015/12/10/airlines-ban-hoverboards-over-battery-danger/77123728/. S*ee generally* Monte Whaley, *Vaping Dangers: Reports of Burns, Injuries from Exploding E-cigarettes*, Denver Post (Jan. 29, 2016), http://www.thecannabist.co/2016/01/29/vaping-dangers-colorado-reports-exploding-e-cigarettes/47430/.
[53] *See* Diane Cardwell, *Energy Storage Industry Gaining Momentum*, N.Y. Times, (Oct. 25, 2015), http://www.nytimes.com/2015/10/26/business/energy-environment/energy-storage-industry-gaining-momentum.html?_r=0 (stating that only as energy policies and technologies have battery storage systems started to become financially viable).

[54] William Pentland, *As Energy Storage Enters Mainstream Markets, System Size Becomes Key Differentiator*, Forbes, (Jan. 19, 2016), http://www.forbes.com/sites/williampentland/2016/01/19/as-energy-storage-enters-mainstream-markets-system-size-becomes-key-differentiator/#6700ffd269db ("IHS Technology is forecasting that the global installed capacity of energy storage systems will double by 2017. The brunt of the new energy storage projects deployed in 2016, or about 45% of the total capacity, is likely to be in the United States.").

[55] *See* Johnston, *supra* note 26, at 62-63 (describing the inefficiencies in the emerging technology supply chain as a "valley of death").

[56] Rebecca Smith & Cassandra Sweet, *Will Tesla's Newest Battery Pan Out?*, Wall St. J. (May 5, 2015), http://www.wsj.com/articles/will-teslas-newest-battery-pan-out-1430522030.

[57] *See* International Energy Agency, Technology Roadmap Energy Storage 41 (2014), https://www.iea.org/publications/freepublications/publication/TechnologyRoadmapEnergystorage.pdf (stating that the high costs and performance issues in battery systems is hindering its growth).

[58] *See S*mith & Sweet, *supra* note 56 (quoting the head of Lawrence Berkeley National Lab whom stated that batteries need to become 75% cheaper before they reach the general market).

[59] *See* Jake Richardson, *70% Decrease In Energy Storage Costs By 2030, Says Report*, Clean Technica (Jan. 25, 2016), http://cleantechnica.com/2016/01/25/70-decrease-energy-storage-costs-2030-says-report/ (stating that the cost to store energy may decrease seventy percent in fifteen years); *see also* Bryn Huntpalmer, *Advancing Solar Storage Solutions*, Altenergymag, (Jan. 26, 2016, 8:18 AM), http://www.altenergymag.com/article/2016/01/advancing-solar-storage-solutions/22648/ (informing that while there is movement to make batteries more affordable, a standard lithium-ion batter currently costs about $1000 per kilowatt hour).

[60] *See* Tesla *supra* note 46, at 2. (displaying costs for the 14 kWh Powerwall battery, which could power a one bedroom home; not including fees for installation and supporting hardware).

[61] Time-of-use pricing schemes offer an alternative to flat rate pricing, which is more amenable to the adoption of DES. *See infra* Section IV.B.3.

[62] *See* Tim Dickinson, *The Koch Brothers' Dirty War on Solar Power*, Rolling Stone (February 11, 2016) http://www.rollingstone.com/politics/news/the-koch-brothers-dirty-war-on-solar-power-20160211 (suggesting that power utilities are poorly able to handle market disruption, and comparing it to what digital photography did to Kodak).

[63] *See* Jeff Winmill, *Electric Utilities and Distributed Energy Resources-Opportunities and Challenges*, 6 San Diego J. Climate & Energy L. 199, 200-01 (2015) (noting that utility infrastructure investments are around $100 billion per year).

[64] *Id.*; *see also* Ivan Penn, *Utilities Push a Solar Pricing Proposal They Say is Fairer for Non-Solar Users*, L.A. Times (Jan. 20, 2016, 6:13 PM), http://www.latimes.com/business/la-fi-solar-subsidy-plan-20160121-story.html.

[65] *See* Elisabeth Graffy & Steven Kihm, *Does Disruptive Competition Mean a Death Spiral for Electric Utilities?*, 35 Energy L.J. 1, 23-28 (2014) (analyzing how disruptive technological competition, automobiles, were met with regulatory protection for tramcars).

[66] *See* Judy Chang, et. al., The Value of Distributed Electricity Storage in Texas: Proposed Policy for Enabling Grid-Integrated Storage Investments, 2-3 (2014). http://www.brattle.com/system/news/pdfs/000/000/749/original/The_Value_of_Distributed_Electricity_Storage_in_Texas.pdf.

[67] *See* U.S. Dep't of Energy Office of Electricity Delivery and Energy Reliability, *supra* note 10, at 30 ("[W]here utilities are vertically integrated, utilities may construct, own, and operate power plants and the costs are reflected in retail prices.").

[68] *See Open Meeting Memorandum*, Ariz. Corp. Comm'n, Utilities Div., 4-5 (Sept. 30th, 2013), http://images.edocket.azcc.gov/docketpdf/0000148646.pdf; *see also* Troy A. Rule, *Solar Energy, Utilities, and Fairness*, 6 San Diego J. Climate & Energy L. 115, 119-120 (2015).

[69] *See* Ryan Randazzo, *Corporation Commission OK's APS Request to Withdraw Application for Higher Solar Rates*, Ariz. Republic, (Oct. 20, 2015), http://www.azcentral.com/story/money/business/energy/2015/10/20/corporation-commission-oks-aps-request-withdraw-application-higher-solar-rates/74301500/.

[70] S*ee infra* Section IV.C.2. (discussing net metering policies).

[71] *See* Ryan Randazzo, *Arizona Regulators Seek Solar Net-metering Compromise*, Ariz. Republic (Dec. 29, 2015), http://www.azcentral.com/story/money/business/energy/2015/12/28/arizona-regulators-seek-solar-net-metering-compromise/77716104/.

[72] *Id*.

[73] *See* Daniel Rothberg, *Lawsuit Filed Over New Rooftop Solar Utility Rates*, Las Vegas Sun, (Jan. 15, 2016), http://lasvegassun.com/news/2016/jan/15/lawsuit-filed-over-new-rooftop-solar-utility-rates/.

[74] *See id*.

[75] *See id*.

[76] *See id*.

[77] *See* Daniel Rothberg, *Ballot Measure Would Restore Old Rooftop Solar Rates*, Las Vegas Sun (Jan. 25, 2016), http://lasvegassun.com/news/2016/jan/25/ballot-measure-would-restore-old-rooftop-solar-rat/.

[78] *See* Andy Balaskovitz, *Michigan Researchers Issue Guidelines for Sustainable Energy Storage,* Midwest Energy News (Feb. 19, 2016), http://midwestenergynews.com/2016/02/19/michigan-researchers-issue-guidelines-for-sustainable-energy-storage/.

[79] *See e.g.,* Andrew Burger, *Smarter Energy*, Triple Pundit (Mar. 4, 2014), http://www.triplepundit.com/2014/03/smarter-energy-zero-financing-intelligent-power-storage/; *see also Intelligent Energy Storage System Market (2015-2021): Global Market Study and Analysis*, Empowered News (Feb. 5, 2016), http://empoweredrnews.net/intelligent-energy-storage-system-market-2015-2021-global-market-study-and-analysis/1872252/.

[80] *See* Balaskovitz, *supra* note 79, at 2.

[81] *See* Vaishnovi Kamyamkhane, *Are Lithium Batteries Sustainable to the Environment?* Wayback Machine (Sept. 5, 2012), https://web.archive.org/web/20120905095017/http://www.alternative-energy-resources.net:80/are-lithium-ion-batteries-sustainable-to-the-environment-i.html?.

[82] *See* DeVitt, *supra* note 53, at 1; s*ee generally* U.S. Env't Prot. Agency, *Vocabulary Catalog,* (2017), https://ofmpub.epa.gov/sor_internet/registry/termreg/searchandretrieve/termsandacronyms/search.do?search=&term=bioremediation&matchCriteria=Contains&checkedAcronym=true&checkedTerm=true&hasDefinitions=false (defining Bioremediation as "[u]se of living organisms to clean up oil spills or remove other pollutants from soil, water, or wastewater; use of organisms such as non-harmful insects to remove agricultural pests or counteract diseases of trees, plants, and garden soil").

[83] *See* DeVitt, *supra* note 53, at 2.

[84] *See* Katherine Tweed, *7 Energy Storage Stories You Might Have Missed in 2015*, Energy Collective (Dec. 25, 2015), http://www.theenergycollective.com/martin-lamonica/2304480/7-energy-storage-stories-you-might-have-missed-2015.

[85] *See id.*

[86] *See id.*

[87] *See* Andrew H. Meyer, Comment, *Federal Regulatory Barriers to Grid-Deployed Energy Storage*, 39 Columbia J. of Envtl L. 480, 483 (2014).

[88] *See Press Kit*, *supra* note 52, at 3.

[89] *See Fuel Cells Fuel Alternative Energy Options*, Energy design resources (Oct. 29, 2013), https://energydesignresources.com/resources/e-news/e-news-90-fuel-cells.aspx.

[90] *See CPUC Improves and Streamlines Self-Generation Incentive Program*, Cal. Pub. Util. Comm'n., (Sept. 8, 2011), http://docs.cpuc.ca.gov/PUBLISHED/NEWS_RELEASE/142914.htm.

[91] *See Fuel Cells*, *supra* note 90.

[92] *See 2015 Handbook*, Self-Generation Incentive Program, 1, 10 (July 17, 2015), http://cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=7722.

[93] *See* Cal. Pub. Util. Comm'n, supra note 91.

[94] *See id.* (listing the specific utilities: Pacific Gas and Electric Company, Southern California Edison, Southern California Gas Company, and San Diego Gas & Electric).

[95] *See 2013 SGIP Impact Evaluation, Advanced Energy Storage Performance,* Cal. Pub. Util. Comm'n, 1, 86 (2013), http://www.cpuc.ca.gov/NR/rdonlyres/AC8308C0-7905-4ED8-933E-387991841F87/0/2013_SelfGen_Impact_Rpt_201504.pdf.

[96] *Id.*

[97] *See* Meyer, *supra* note 88, at 483.

[98] *See id.*

[99] *See id.*

[100] *See* discussion, *supra* Section II.C. for an explanation of utilities' existential concerns over DES.

[101] Kimberly Wojcik, *Energy Storage: The Future of Cleantech has Arrived*, J. of Multistate Taxation and Incentives 7 (2015).

[102] *See About Us*, New York Battery and Energy Storage Technology Consortium, https://www.ny-best.org/About_NY-BEST (last visited Feb. 24, 2016).

[103] *See id.*

[104] *See id.*

[105] *See id.*

[106] *See* Wojcik, *supra* note 101, at 7-8.
[107] *See id.* at 8
[108] *See id.*
[109] *See id.*
[110] *See id*.
[111] *See* Juan Cole, *Hawaii's Governor Dumps Oil and Gas in Favor of 100 Percent Renewables*, TheNation (Aug.262015), http://www.thenation.com/article/hawaiis-governor-dumps-oil-and-gas-in-favor-of-100-percent-renewables/.
[112] *Id.*
[113] *See* Travis Hoium, *Hawaii may have Just Given Energy Storage a Huge Boost*, The Motley Fool (Oct.22, 2015), http://www.fool.com/investing/general/2015/10/22/hawaii-may-have-just-given-energy-storage-a-huge-b.aspx.
[114] *Id.*
[115] *Id.*
[116] *Id.*
[117] *See* Helle Abelvik-Lawson, *Three Problems With Transitioning to Renewable Energy and How to Fix Them*, truthout (Dec. 28, 2015), http://www.truth-out.org/opinion/item/34193-three-problems-with-transitioning-to-renewable-energy-and-how-to-fix-them.
[118] *Id.*
[119] *See Tesla Powerwall*, Green Mountain Power, (Jan.21,2016) http://products.greenmountainpower.com/tesla-powerwall.
[120] *Id.*
[121] *Id.* (detailing Green Mountain Power's DES offerings to its customers); *See also* Josh Castonguay, *Re:GMP – Tesla Powerwall Innovative Pilot*, Green Mountain Power, (Dec. 2, 2015) http://www.greenmountainpower.com/upload/photos/426Hudson_12.02.2015_-_Tesla_Pilot_Filing.pdf; *See* discussion *infra* Section IV.C.2. regarding utility shared access programs.
[122] *See* Meyer, *supra* note 88, at 482.
[123] *See* Energy Storage Competitiveness Act, 42 U.S.C. § 17231(h)(1) (2007).
[124] *See Batteries and Energy Storage*, Argonne National Laboratory, (Jan. 21, 2016) http://www.anl.gov/energy/batteries-and-energy-storage .
[125] *Id*.
[126] Advanced Research Projects Agency-Energy, *General Questions About ARPA-e*, (Jan. 21, 2016), http://arpa-e.energy.gov/?q=faq/general-questions.
[127] *See* Johnston, *supra* note 26, at 39.
[128] *Id.*
[129] *Business Energy Investment Tax Credit*, U.S. Dep't of Energy, (Feb. 24, 2016), http://energy.gov/savings/business-energy-investment-tax-credit-itc..
[130] *See* Johnston, *supra* note 26, at 39.
[131] *Id.* at 40.
[132] *See* Meyer, *supra* note 88, at 483.
[133] *Property Assessed Clean Energy Programs*, Center for Sustainable Energy, (Feb. 24, 2016), http://energycenter.org/policy/property-assessed-clean-energy-pace#PACE-FAQs, ("Property assessed clean energy, or PACE, financing allows property owners to fund energy efficiency, water efficiency and renewable energy projects with little or no up-front costs. With PACE, residential and commercial property owners living within a participating district can finance up to 100% of their project and pay it back over time as a voluntary property tax assessment through their existing property tax bill.").
[134] *Id.*
[135] *Property Tax Exclusion for Solar Energy Systems*, U.S. Dep't of Energy, http://energy.gov/savings/property-tax-exclusion-solar-energy-systems (last visited Apr. 22, 2017).
[136] *See Distributed Energy Storage*, Trilliant, http://trilliantinc.com/solutions/consumer/distributed-energy-storage (last visited Apr. 22 , 2017) (noting that utilities must provide price signals to consumers and their distributed energy sources to provide incentives).
[137] *See* discussion *infra* Section IV.C.2. (discussing net metering).
[138] *See Issues & Policies*, Solar Energy Indus. Ass'n, http://www.seia.org/policy/distributed-solar/net-metering (last visited Apr. 22, 2017) (describing how net metering has been used as a mechanism for offering credits for distributed solar generation).
[139] *See* Johnston*, supra* note 26, at 41 (emphasizing that net metering programs also incentivize customers to install their own renewable energy systems).
[140] *Id.*
[141] *See Rate Design Guiding Principles for Solar Distributed Generation*, Solar Energy Indus. Ass'n, http://www.seia.org/research-resources/rate-design-guiding-principles-solar-distributed-generation-0 (last visited Apr. 13, 2017) (outlining foundational principles for a rate-based approach that balances shareholder's and customer's interests).
[142] *See* Fredric Beck & Eric Martinot, *Renewable Energy Policies and Barriers*, *in* 5 Encyclopedia of Energy 365, 372 (2004) (pointing out that at least twelve U.S. states have enacted an RPS ranging from 1 to 30% of electricity generation).
[143] *Id.*
[144] *See e.g. RPS Solar Carve Out Arizona*, Solar Energy Indus. Ass'n, Feb. 2, 2013, http://www.seia.org/sites/default/files/resources/RPS%20Solar%20Fact%20Sheet%20AZ.pdf (explaining carve outs for solar in Arizona's RPS policy and showing a 15% carve out in Arizona).
[145] *See* Galen Barbose, *Renewables Porfolio Standards in the United States: A Status Update*, 7-8, *available at* http://www.cesa.org/assets/2012-Files/RPS/RPS-SummitDec2012Barbose.pdf
[146] *See e.g.,* Ted Allrich, *Pinnacle West: The Peak of the Energy Pyramid*, http://seekingalpha.com/article/20935-pinnacle-west-the-peak-of-the-energy-pyramid (last visited Feb. 9, 2016) (indicating APS's 4,000 MW generation capacity); *see also* NYC Special Initiative for Rebuilding and Resiliency, *A Stronger, More Resilient New York*, 108, http://s-media.nyc.gov/agencies/sirr/SIRR_singles_Lo_res.pdf (indicating Con Edison's 11,000+ MW generation capacity).
[147] *See* discussion, *infra* Section I.B.2. (regarding the benefits of DES for grid security).
[148] *See* U.S. Dep't of Energy Office of Electricity Delivery & Energy Reliability, *supra* note 10, at 30 (explaining that utility infrastructure costs are recouped through retail energy rates).
[149] *See* discussion *infra* Section II.C. (regarding utilities' concerns over DRG's diminishing effect on their revenue).
[150] *See* discussion*, infra* Section IV.C.2. (regarding utility shared access programs).
[151] *See* discussion, *infra* Section II.D on the potential environmental harms associated with DES technology.
[152] *See* Hazardous Waste Recycling, EPA (last updated Dec. 28, 2016), https://www.epa.gov/hw/hazardous-waste-recycling.
[153] *See* 40 C.F.R. § 261.20(c) (2017); *see also* 1 Caroline N. Broun & James T. O'Reilly, RCRA & Superfund: A Practice Guide § 2:37 (3d ed. 2016) (listing ignitability, corrosivity, reactivity, and toxicity along with relevant qualifiers for consideration of whether a solid waste can be considered hazardous for the purposes of RCRA); EPA, Hazardous Waste Listings: A User-Friendly Reference Document 11 (2012), https://www.epa.gov/sites/production/files/2016-01/documents/hw_listref_sep2012.pdf.
[154] *See* 9 Philip Weinberg et al., New York Practice Series–Environmental Law and Regulation in New York § 8:32.30 (2d ed. 2016) (describing a similar law for batteries signed by the Governor of New York in 2010).
[155] *See id.* (explaining that manufacturers or retailers are subject to various civil penalties depending on the frequency of violation).
[156] *See* Vaishnovi Kamyamkhane, *Are Lithium Batteries Sustainable to the Environment?* Internet Archive: Wayback Machine (Sept. 5, 2012), https://web.archive.org/web/20120905095017/http://www.alternative-energy-resources.net:80/are-lithium-ion-batteries-sustainable-to-the-environment-i.html?.
[157] *See also* Ariz. Pub. Serv., Arizona Statewide Service Territory (2017), https://www.aps.com/library/communications1/AZ_Map.pdf.
[158] *See* Nat'l Park Serv., Green Parks Plan 4 (2016), https://www.nps.gov/subjects/sustainability/upload/NPS-Green-Parks-Plan-2016.pdf.

Subscription Information

Sustainable Development Law & Policy (ISSN 1552-3721) publishes three issues each year. Subscriptions are $30 per year. Because our goal is to make *Sustainable Development Law & Policy* available to practitioners in related fields, if a non-profit organization is unable to meet the subscription price, the publication may be available at no cost upon request. All subscriptions will be renewed automatically unless timely notice of cancellation is provided.

To subscribe, please contact us by email (preferred) or at:

Managing Editor
Sustainable Development Law & Policy
American University Washington College of Law
4300 Nebraska Avenue, NW Room CT03
Washington, DC 20016
Tel: (202) 274-4057
Email: sdlp@wcl.american.edu

AMERICAN UNIVERSITY
WASHINGTON, DC

Nonprofit Org.
U.S. Postage
PAID
Hagerstown MD
Permit No. 93

SDLP
American University
Washington College of Law
4300 Nebraska Avenue, NW Room CT03
Washington, DC 20016

Forwarding Service Requested