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UPDATE ON PACE: LITIGATION, LEGISLATION, AND NEW INITIATIVES

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I. Introduction to Pace

This is an update on the development of Property Assessed Clean Energy (PACE) programs across the United States, focusing on the national challenges on the residential side, the rise of new PACE approaches, and the status of PACE in Florida. Concerns with residential PACE programs are still being raised by the Federal Housing and Finance Agency (FHFA—a federal agency of the U.S. government), Fannie Mae (Fannie), and Freddie Mac (Freddie). Two federal bills introduced in 2010 and 2011 to resolve the concerns failed to pass. Federal litigation has continued through early 2013, and a federal rulemaking process has been underway. While legal issues remain, PACE programs are still being launched with various funding approaches and a mix of either commercial, residential, or both types of targeted property owners.

In a PACE program, a local government uses its home rule powers (usually through non- ad valorem assessment powers) to finance energy improvements with a lien attached to a property and repayment through the annual tax bill. The program is used by property owners on a strictly voluntary basis without any costs borne by nonparticipating property owners. Generally, improvements can include energy efficiency, renewable energy, and water conservation (differing across programs). Pursuant to Florida statute (Section 163.08, F.S.) wind resistance improvements are also included. Use of non-ad valorem assessments overcomes the largest hurdle to energy improvement financing by providing all of the funds upfront to complete the energy projects.

II. The Foundation of Pace

California led the way in creating PACE programs with the first local government to do so (Berkley FIRST launched in 2008) pursuant to Assembly Bill 811 and Assembly Bill 474. Twenty-eight states plus the District of Columbia have launched some form of a PACE program or have legislation providing the ability to create PACE programs. The features that distinguish the various programs are the method of financing, the improvements that can be financed, whether or not the programs include residential properties, and the inclusion of specific criteria to minimize the risk to property owners and existing mortgage holders. Originally, most of these program design considerations were found in the Department of Energy's (DOE) "Best Practice Guidelines." But new design considerations are developing as PACE programs continue to launch and more is learned about minimizing risk. Department of Energy, Guidelines for Pilot PACE Financing Programs (May 7, 2010). DOE remains interested in the creation of all types of energy financing programs for property owners, including various forms of PACE, but best practices for the industry are continually evolving well beyond the guidelines developed in 2010.

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PACE enjoys great support from local governments because it creates an enhanced market for financing energy and other property improvements with resulting job creation benefits. It also increases local government revenue with increased permit fees to complete the projects. With PACE, property owners save money on their energy bills and increase property values (another tax revenue enhancement). PACE also provides a strategy to reduce communitywide greenhouse gas (GHG) emissions and other environmental benefits, such as those stemming from water conservation initiatives.

III. The Pace Law in Florida

Florida passed HB 7179 in the 2010 legislative session (amending Chapter 163, F.S.) and clarified supplemental authority for local governments to create PACE programs. The law defines a "qualifying improvement" to include energy efficiency, renewable energy, or wind resistance projects. The improvements must be affixed to the existing structure on a property. This authority is supplemental to Florida county and municipal home rule powers granted in the Florida Constitution. Florida's law also generally

- clarifies the process and public purpose aspects of PACE programs;
- makes a finding that property owners receive a "special benefit" reducing the property's energy consumption;
- finds a "a compelling state interest" in PACE programs;
- allows local governments to incur debt to provide financing and levy non-ad valorem assessments to fund the programs; and
- allows local governments to partner with one another to form a program.

Pursuant to state law, PACE assessments take priority over all other obligations on a property, including mortgages, meaning they are considered a "senior lien" because they subordinate mortgage obligations. This is necessary to secure favorable financing rates because lenders want assurance that the financial obligations will be repaid. This is why FHFA, Fannie, and Freddie have cried foul.

Most recently in 2012, Florida's PACE law was amended to provide explicit authority for interlocal entities (formed through interlocal agreement) to levy and collect assessments for PACE programs as a "local government." The change streamlines the formation and implementation of multijurisdictional PACE programs.

Status of the Pace Lawsuits

On September 18, 2009, Fannie directed lenders to treat PACE assessments as any other tax assessments; but later the FHFA, Fannie, and Freddie made contrary determinations through "lender letters" focusing on the seniority of PACE liens in relation to a mortgage. On May 5, 2010, Fannie and Freddie issued advice letters to lending institutions stating that PACE assessments acquiring a "priority lien" over existing mortgages pose risk and are key alterations to traditional mortgage lending practice. Additionally, they characterized the PACE assessments as "loans" rather than assessments. These determinations were upheld by the FHFA in July 2010. Throughout the summer and fall of 2010, the FHFA, Fannie, and Freddie continued to issue statements raising concerns about PACE programs.

As a result of these actions, eight complaints were filed in federal courts in California, Florida, and New York. First to file was the State of California, filing a Complaint for Declaratory and Equitable Relief, Unfair Business Practices, and Violation of the National Environmental Policy Act (NEPA) against the FHFA, Fannie, and Freddie. Other plaintiffs included the Sierra Club; Sonoma County, California; Placer County; the City of Palm Desert, California; the Natural Resource Defense Council, Inc; the Town of Babylon, New York; and Leon County, Florida (Leon County filed its complaint on October 8, 2010).

IV. The Plaintiffs' Arguments

The plaintiffs generally argued that state and local governments have legitimate interests in: (1) preserving home rule and assessment powers; (2) pursuing energy

conservation and GHG reduction strategies; (3) protecting the health and welfare of their citizens; (4) protecting the economic interests of their residents in financing the improvements; (5) protecting citizens from the unfair trade practices by, or unfair competitive advantages of, Fannie and Freddie in prohibiting senior liens for assessments; and (6) receiving federal monies earmarked for these purposes. Other arguments are borne from the Tenth Amendment to the United States Constitution reserving to the states all powers except those limited powers granted to the federal government and ensuring the division of powers between the states and federal government. The plaintiffs argued that by statute, Fannie and Freddie have purchased and guaranteed mortgages subject to government assessment liens that already have statutory priority over any underlying mortgage obligation; now, the defendants cannot pick and choose which assessment liens have priority over mortgage obligations and which do not.

The plaintiffs also argued that (1) the actions of FHFA were arbitrary and capricious under the Administrative Procedures Act (APA), and (2) the "lender letters" from FHFA to Fannie and Freddie are rules subject to the rulemaking and notice procedures typical for these types of agency statements.

Most plaintiffs have been seeking holdings that (1) the assessments are liens, not loans; (2) the assessments do not pose risk and do not alter traditional lending practices; (3) the assessments constitute liens of equal dignity to county taxes and assessments; and (4) the assessments do not contravene Fannie or Freddie's Uniform Security Instruments prohibiting loans that have senior lien status to a mortgage. Injunctive relief was also sought to prevent adverse actions against any mortgagee participating in a PACE program.

V. The Defendants' Arguments

The defendants argued that with a senior lien PACE programs pose serious financial risk. FHFA directed Fannie and Freddie to take "reasonable" and "prudential" actions to protect against that risk. Pursuant to 12 U.S.C. § 4617, FHFA argued that, in a conservatorship role over Fannie and Freddie, they acted to preserve safe and sound financial practices dictated by the Housing and Economic Recovery Act of 2008.

As a conservator, FHFA argued that its actions were not reviewable and that it acted within the scope of its authority. It also argued that the plaintiffs' claims were not in the zone of interests protected by the statute under which FHFA acted and that FHFA has not issued any rule or regulation subject to notice and comment under the APA.

VI. Case Status and Federal Rulemaking

In New York, on October 24, the Second Circuit Court of Appeals upheld the dismissal of the cases from the Southern and Eastern Districts of New York. After being dismissed at the district court level, the Florida case was appealed and argued before the Eleventh Circuit Court of Appeals on October 30, 2012. On November 9, 2012, the Eleventh Circuit upheld the dismissal from the Northern District of Florida. Both the New York and Florida appellate rulings chiefly found that FHFA was acting as a conservator (as opposed to regulator) in the case, and, as such, under the Housing and Economic Recovery Act of 2008, their actions in relation to PACE are insulated from judicial review.

On August 9, 2012, the Northern District Court of California granted the plaintiffs' motion for summary judgment with respect to their notice-and-comment claim under the APA. But the court found it unnecessary to rule on the remaining claims under the APA and NEPA. The court found that FHFA was acting as a regulator and the FHFA's PACE directives amounted to substantive rulemaking. Similar to this rulemaking, the FHFA had utilized the notice-and-comment process before with respect to its proposed rule restricting the regulated entities from purchasing mortgages on properties encumbered by private transfer fee covenants deemed to undermine the safety and soundness of their investments. In that analogous instance, the FHFA deemed it appropriate to comply with the APA notice-and-comment requirements but did not undertake that process for PACE. The court also found that FHFA's directives on PACE obligations

amounted to substantive rulemaking, not an interpretation of rules that would be exempt from the notice-and-comment requirement.

A final judgment was entered in the case on October 16, 2012, dismissing all other claims, including Tenth Amendment claims, but finding that FHFA failed to comply with required notice-and-comment procedures set forth in the APA. The court ruled that the FHFA must complete the notice-and-comment process already ordered (but appealed) concerning PACE and publish a final rule no later than 210 days from the date of entry of the judgment (October 16, 2012).

FHFA began the notice-and-comment process pursuant to an earlier preliminary injunction the court granted. On January 26, 2012, the FHFA issued an Advance Notice of Proposed Rulemaking seeking comment on whether the restriction set forth in the July 2010 statement and the February 2011 letter should be maintained (77 Fed. Reg. 3958). The FHFA received 33,000 comments in response to the notice. On June 15, 2012, the FHFA issued a Notice of Proposed Rulemaking and Proposed Rule concerning underwriting standards for Fannie and Freddie related to PACE programs. Comments were due on the Proposed Rule on September 13, 2012. FHFA requested an extension of this deadline to September 2013. On March 19, 2013, the Ninth Circuit Court of Appeals vacated the district court's previous order and dismissed it for lack of jurisdiction. The FHFA issued a "directive" preventing Freddie and Fannie from buying mortgages on properties encumbered by liens made under PACE on residential properties. The Ninth Circuit panel held that the FHFA's decision to cease purchasing mortgages on PACE-encumbered properties is a lawful exercise of its statutory authority as conservator of Freddie and Fannie. The panel held that the courts do not have jurisdiction to review actions that the FHFA takes as a conservator and dismissed the case. As of the writing of this article, it is still unclear what this means to the rulemaking process already underway because there has been no pronouncement on FHFA's intentions.

VII. Programs across the Nation

As mentioned previously, despite these challenges, various types of PACE or PACE-like programs are developing across the United States and in Florida. They may differ in terms of the financing strategy, seniority of the lien, and whether or not they include residential.

Programs continue in operation, or are under development in California, Connecticut, Maine, Florida, and other states. Many of the programs operating have either shut down their residential component or they are working with non-senior liens, use of other types of financing outside of property assessed models, or disclose the risks to program participants and let them make the choice as to whether or not PACE financing risks are acceptable to them. Many PACE programs that underwrite commercial PACE projects will not do so unless the consent of any existing mortgage lender on the property is secured. Of those residential models that are currently operating or are about to operate, some require existing lender consent and some do not. It is unclear what effect the recent court decisions will have on these program requirements.

In California, programs are launching or operating in Sonoma County, San Francisco, Los Angeles, Sacramento, Riverside, Placer County, and other regions. CaliforniaFIRST is a multijurisdictional program including over 150 local governments and financing for commercial, industrial, and multifamily projects (the largest of its kind nationally)with seventy-one closings currently pending. The program uses multiple financing options through an "open-market" approach allowing property owners to review offers from lenders and select the best option for their unique project. Lenders have committed hundreds of millions of dollars to finance projects through the CaliforniaFIRST program.

Organizations and stakeholders in Texas are focusing efforts on legislative initiatives (a bill was recently signed into law by the Texas governor focusing on commercial PACE) to facilitate development of PACE programs based on various best practices from other states. Connecticut has launched a statewide platform that focuses on Commercial C-PACE, run by the Clean Energy Finance and Investment Authority (CEFIA). In the initial phase of the C-PACE program in Connecticut, CEFIA is pursuing an "open-market"

program. In this model, financing is provided by private investors. Investors are attracted to the security of the tax lien and work directly with property owners to negotiate rates and terms.

VIII. Florida Program Status

Notwithstanding the federal issues and litigation discussed above, several local governments in Florida are considering or finalizing a PACE program. One example is the Green Corridor District PACE Program (Green Corridor) in Miami-Dade County. The Town of Cutler Bay along with seven local governments within Miami-Dade County have now launched the Green Corridor. The Green Corridor is a separate legal entity created pursuant to Section 163.01, Florida Statutes, and will be governed by a board consisting of one representative from each local government as well as an at-large member.

All of the "qualifying improvements" provided for in HB 7179—energy efficiency, renewable energy, and wind resistance projects—will be eligible for financing under the program. The Green Corridor will be a turnkey senior lien priority program that will include both residential and nonresidential properties. Since this will be a turnkey program, there will be no cost to the local governments to participate in the Green Corridor. Instead, the costs of the program will be borne by the administrator, which is a private entity that was selected through a competitive bid process.

In order to address the concerns raised by the FHFA, Fannie, and Freddie, the program will include consumer protection regulations to protect and educate residents or business owners about their investments. In addition, the program will also include the necessary underwriting standards to ensure that residents or business owners will have the ability to pay the special assessments. It should also be noted that through successful negotiation with the administrator, the local governments within the Green Corridor are indemnified by the administrator from the federal concerns discussed in this article. Therefore, through the public/ private partnership and the leadership of the local governments within the Green Corridor, hopefully this program will be successful and can serve as a model for other local programs around the state.

Another program, Florida Green Energy Works, is the first truly statewide, multijurisdictional structure, but it only focuses on commercial properties until the issues related to residential PACE are either resolved or there is more certainty diminishing the risks. To date, the Florida Green Energy Works program includes eleven local government jurisdictions across four separate counties. The program uses an open-market financing approach working with multiple lending institutions and requires the consent of any existing lenders on the commercial properties. The program is open and currently accepting applications and registering contractors and energy reviewers for property owners to use their services.

The final multijurisdictional program is the Florida PACE Funding Agency, which currently includes Flagler County, Nassau County, and the City of Kissimmee. The program will underwrite both residential and commercial PACE projects and will rely upon a $2 billion bond issuance to fund the program.

Other Florida updates include Leon County, which is exploring the development of a commercially focused PACE program. Currently there are five local governments in Florida that are doing some level of information collection to launch a PACE program or they are contemplating creating a program or joining one. Multiple program approaches will hopefully lead to some measure of success for PACE implementation soon in Florida.

IX. The Litigation and Legislation Today

With the recent dismissal of the federal cases, and the limitation of the California cases on only APA issues, the focus will be on the rulemaking process. The Proposed Rule maintains the directives that are not supportive of residential PACE with a senior lien. While "mitigation measures" were outlined, it is unclear whether or not any of them will actually satisfy FHFA. With two failures for a federal legislative fix, it is unclear how soon a third attempt will be made in 2013. Until the Final Rule is adopted, if at all, the future

remains unclear as to whether or not residential senior lien PACE programs will be acceptable to FHFA. The PACE community and stakeholders continue to work towards compromise solutions that will develop best practices for consumer and lender protections. Hopefully, the remainder of 2013 will bring some positive movement on residential PACE.

Erin L. Deady, is president of Erin L. Deady, P.A. ***Herb W. Thiele*** is the County Attorney of Leon County. ***Ed Steinmeyer*** is a partner at Lewis, Longman & Walker. ***Chad Friedman*** is a partner at Weiss Serota Helfman Pastoriza Cole & Boniske. Lewis, Longman & Walker and Erin L. Deady, P.A. represented Leon County in its action against FHFA, Fannie Mae, and Freddie Mac. Erin L. Deady, P.A. also represents the Florida Green Energy Works Program. Weiss Serota Helfman Pastoriza Cole & Boniske is representing the Green Corridor PACE Program.

GREEN BUILDINGS ON A SHOESTRING: UTILIZING ESCOS IN NEW PUBLIC CONSTRUCTION

Eric Wilber

Eastern Illinois University (EIU) had a major problem—$16 million of deferred maintenance on a coal-fired steam plant built in 1925, responsible for heating and cooling all of its campus. Worse, the financial situation in the state of Illinois was deteriorating, necessitating student tuition increases and foreclosing the ability for state capital dollars to replace the plant. EIU turned to amending an innovative Illinois statute, called the Public University Energy Conservation Act, to help remedy the situation.

Illinois Performance Contracts

Passed originally in 1997, this Act was designed to foster cooperation between the public and private sectors to promote sustainability and energy efficiency on college campuses without the need for additional state dollars. After a Request for Proposals (RFP) process, the law allows public universities to partner with energy services companies (ESCos), such as Honeywell and Siemens, to conduct a comprehensive energy audit of the campus and suggest ways the university can increase its energy efficiency. Examples of these energy conservation measures include caulking and weather stripping windows; installing multipane windows, energy efficient light fixtures, and efficient HVAC systems; and other energy conservation measures that "provide long term operating cost reductions." 110 ILCS 62/5-10(a). The ESCo then creates a guaranteed energy contract, or performance contract, with the university to provide these energy conservation measures. 110 ILCS 62/5-15. Instead of using traditional bonds to pay for these upgrades, the statute allows the university to pay for these projects by utilizing the energy savings realized from these measures for a period of up to twenty years. 110 ILCS 62/5-20. Although the university must to able to pay for the energy conservation measures within the twenty-year period, a university may issue Certificates of Participation (COPs), authorized under a different financing statute, to stretch out payments on the debt

service for a period of up to thirty years. *See* 110 ILCS 73/10.

The university is guaranteed that its utility appropriations will not be reduced as a result of the energy savings realized from undertaking these energy efficiency measures. 110 ILCS 62/45. In other words, by utilizing these energy conservation measures, the university's overall utility budget drops from what it would be without the upgrades. However, the statute allows the university to continue to receive the same amount of money its utility budget would have without the upgrades and to use that money to pay off the debt service on the COPs. The ESCo contractually guarantees that the amount of appropriated money will be enough to pay for the energy conservation measures over the lifetime of the project; otherwise, it is liable for the difference under the statute. Finally, utilizing the comprehensive energy audit, universities are able to combine energy conservation measures across their campuses to provide enough energy savings to help fund larger projects.

This represents a win for everyone involved. The university receives needed energy upgrades without requesting any additional money from its students or the state and is guaranteed funding for the project regardless of the energy market in the future. The state now can fund additional, higher-priority projects with taxpayer money. As the energy market is relatively predictable, the ESCo can easily predict the amount of money needed and, therefore, limit its risk, while ensuring profits from large public sector contracts. Finally, the environment is the ultimate winner because institutions reduce their energy consumption with these projects instead of waiting for other sources of funding to come along.

Following a successful pilot project utilizing performance contracting, EIU contracted with Honeywell International in 2001 for a $10 million project. This included replacing light fixtures, water faucets, showerheads, and toilets with much more efficient models. The results were staggering, with the university slashing water consumption by almost half and reducing its cost of electricity to the lowest student per capita cost of all public universities in Illinois. *See* Eastern Illinois University, Energy Conservation, www.eiu.edu/sustainability/eiu_energy.php (last visited Apr. 11, 2013).

Other universities took advantage of this mechanism, with Northern Illinois University installing a new natural gas boiler, among other projects. Northern Illinois University, Building Improvements, www.energysystemsgroup.com/niu/ecms.html (last visited Apr. 11, 2013). Illinois has also enacted similar laws for local governments, community colleges, and elementary and secondary schools and finished a ten-year pilot program of performance contracting for all other state buildings in 2006. Illinois Department of Commerce & Economic Opportunity, Energy Performance Contracting Program, http://www.ildceo.net/dceo/Bureaus/Energy_Recycling/Energy/Energy+Efficiency/epc.htm (last visited Aug. 6, 2013). This program provided over $33 million in projects, saving almost $5 million annually in electric bills. *Id.* However, all of these programs are only available for energy efficiency improvements to existing buildings, not for new construction.

The EIU Renewable Energy Center

In 2008, EIU's aging steam plant was failing, with the entire campus relying on the steam it produced. University leaders determined that the best way forward was to build a new steam plant utilizing renewable energy. After another RFP process, Honeywell was again selected as the ESCo, which proposed twenty-three energy conservation measures across the campus. At their center was a new $54 million Renewable Energy Center, utilizing biomass gasification to cool and heat the campus. *See* Honeywell and Eastern Illinois University Bring the Heat with Biomass-Fueled Plant (Nov. 20, 2009), *available at* www51.honeywell.com/honeywell/news-events/press-releases-details/11.20.09.html (last visited Apr. 11, 2013). However, a major statutory problem developed: the acceptable measures under the Public University Energy Conservation Act were based on improvements to existing structures, not building new ones. In other words, the university could install a new biomass boiler in its existing steam plant utilizing this

funding mechanism but could not construct a new building to house it. It was not possible to take the steam plant offline for the amount of time needed to switch out the equipment within the steam plant without jeopardizing university functions and other campus infrastructure.

After consulting local legislators, the university embarked on a mission to change the law to utilize the Act's funding mechanism for a new building instead of relying on student fee monies. The original bill presented to the legislature would have opened the Public University Energy Conservation Act to all new construction. However, after significant opposition from labor and commercial groups worried about the implications of expanding the limited scope of the statute, the university scaled the proposal back to just a pilot program for its Renewable Energy Center. Labor groups signed on after guarantees were put in place to ensure that existing labor laws would be complied with under the proposal. Despite initial concerns over state liability if the savings did not materialize as projected, the Speaker of the Illinois House allowed the proposal to go forward with companion legislation after a strong grassroots lobbying effort by the EIU student body. The pilot project legislation was passed unanimously by both houses of the Illinois legislature with eighty-eight legislators signing on as co-sponsors, and Governor Pat Quinn signed the law on June 23, 2009. *See* P.L. 96-0016, codified at 110 ILCS 62/5-10(b). Signed at the same time was the State University Certificates of Participation Act, which limits the amount of money that can be owed on annual debt service, imposes stricter reporting requirements, and mandates approval by a state debt commission before any debt is incurred using COPs. 110 ILCS 73/10.

On the same day the bill was signed, the EIU Board of Trustees approved the $80 million Renewable Energy Center project, the largest capital construction project in its history. *See* Eastern Illinois University Board of Trustees, Minutes of the Meeting of the Board of Trustees 6 (Jun. 22, 2009), *available at* www.eiu.edu/~trustees/Summary%206.22.09.pdf. As added protection for such a large project, the university took out an insurance policy to ensure that the energy savings guarantees would be covered in the unlikely event of default by the ESCo. Eastern Illinois University Board of Trustees, Board Report 10 (Jun. 22, 2009), *available at* www.eiu.edu/~trustees/pdf/2009/06_22_09_Board_Report.pdf.

After design concerns with the community were alleviated, ground was broken in November 2009, and the completed building was dedicated two years later. The Renewable Energy Center utilizes two biomass boilers, using wood chips as its initial feedstock. *See* Eastern Illinois University, Renewable Energy Center, www.eiu.edu/sustainability/eiu_renewable.php (last visited Apr. 11, 2013). A research component has been established to find other acceptable feedstock, such as corn stover and Miscanthus switchgrass. *Id.* The main byproduct of this gasification process is soluble potash, a fertilizer which can be utilized by area farmers. *Id.* One of the boilers utilizes its back-pressure to run a steam turbine, generating enough electricity to feed 7 percent of the campus's electricity needs. *Id.* As a result of these renewable methods of energy generation and care in designing the facility, the plant was awarded LEED Platinum certification by the United States Green Building Council in July 2012. It is one of the only power plants in the country to be recognized as LEED Certified. *See* U.S. Green Building Council, EIU Renewable Energy Center, http://usgbc.org/projects/eiu-renewable-energy-center (last visited Apr. 11, 2013).

Federal Performance Contracts

Similar to Illinois, Congress enacted the Energy Policy Act of 1992, which authorized federal agencies to take advantage of performance contracting. Congress permanently extended this authority in 2007. *See* 42 U.S.C. § 8287. In fact, President Obama made it a goal that federal agencies enter into a combined savings of $2 billion in performance contracts by this year. Administration of Barack Obama, Memorandum on the Implementation of Energy Savings Projects and Performance-Based Contracting for Energy Savings 1 (Dec. 11, 2011), *available at* www.gpo.gov/fdsys/pkg/DCPD-201100920/pdf/DCPD-201100920.pdf. Additionally,

in 2010 the Government Services Administration (GSA) required all new federal building construction projects and renovations to conform to LEED Gold standards. Andy Medici, *Agencies Look to Award More Renewable Energy ESPCs*, FEDERAL TIMES, Oct. 19, 2012, www.federaltimes.com/article/20121019/FACILITIES02/310190003/Agencies-look-award-more-renewable-energy-ESPCs. Unfortunately, current federal law only envisions the use of performance contracts for "existing federally owned . . . buildings." 42 U.S.C. § 8287c; 10 C.F.R. § 436.31.

However, the Department of Energy (DOE) recently completed a new biomass cogeneration facility at its Savannah River Site utilizing performance contracting, the largest such project to date. Press Release, U.S. Department of Energy, SRS Marks Successful Operational Startup of New Biomass Co-generation Facility (Mar. 12, 2012) *at* www.srs.gov/general/news/releases/nr12_doe-biomass-startup.pdf. The GSA has allowed pilot projects for new federal construction to utilize this funding mechanism by either modeling the energy usage with and without the energy conservation measures or phasing in the energy conservation measures immediately after construction of the new building. U.S. Department of Energy, Guide to Integrating Renewable Energy in Federal Construction, www1.eere.energy.gov/femp/reconstructionguide/pf_espcs.html (last visited Apr. 11, 2013). However, even DOE admits these procedures make utilization of performance contracting for new buildings more complicated than for existing construction. *Id.* Amending the statute to expressly allow performance contracting for new construction could allow the federal government to attain both LEED Gold standards and the president's goal for federal energy savings at the same time, while saving taxpayer money, investing in the private sector, and limiting environmental impacts of new construction.

Recommendations

Performance contracting has been shown so far to be a successful funding mechanism to construct a new green building at EIU and other federal projects around the country. Despite the terrible fiscal climate during the Great Recession, the university was able to collaborate with labor and environmental groups, the state, and private companies to solve a major problem on its campus. It is hoped that once the statutory pilot project expires in 2015, the Illinois legislature will consider permanently codifying the ability of all public universities to utilize performance contracting and ESCos to take advantage of energy conservation measures. As green buildings become the norm in public construction, Congress and states should consider amending existing statutes to allow for performance contracting for new construction. After all, there is no practical reason why this funding mechanism cannot be expanded to new federal, state, and local buildings and construction projects across the country. The experience of EIU can serve as a model to other Illinois institutions and those around the country looking to reduce their carbon footprint and save money, while working with the private sector to build new green buildings fitted for the twenty-first century.

Eric Wilber is second-year law student at the Southern Illinois University School of Law. He led the EIU student lobbying effort for the Renewable Energy Center legislation and voted to approve the project as the student member of the EIU Board of Trustees.

GET SMART TO GO GREEN? LEED NEIGHBORHOOD DEVELOPMENT AND SUSTAINABILITY

Alfred R. (Fred) Light

The 473-page *Reference Guide for Neighborhood Development*, the contents of which are the subject of the accreditation exam one must master in order to become a LEED Accredited Professional with a specialty in the field, is entitled *Green Neighborhood Development* (ISBN 978-1-932444-30-8) [hereinafter "Reference Guide"]. The emphasis on the book's cover is on GREEN—in letters over two inches high. The case for green neighborhood developments that begins the introduction in the Reference Guide is about greenhouse gas emissions and sprawling development patterns, which "fragment habitat, endanger sensitive land and water bodies, destroy precious farmland, and increase the burden on municipal infrastructure." Reference Guide, at xi. Green neighborhood developments are touted as a way to reduce greenhouse gas emissions, "lessen negative consequences for water resources, air quality, and natural resource consumption," while also being "beneficial to the community and the individual." *Id.* The Guide recommends, "LEED-ND can be used to analyze whether existing development regulations, such as zoning codes, development standards, landscape requirements, building codes, or comprehensive plans, are 'friendly' to sustainable developments." Reference Guide, at xv.

A tour of the LEED-ND Reference Guide, provided below, causes one to question whether the rating system that has been devised can be demonstrated to promote protection of the environment or the principle of sustainability. Some of the standards a project is required to meet in order to receive certification, and critically their quantitative measurement, have little obvious connection to the supposed motivating principles. It is also far from clear whether Americans universally desire the type of neighborhood development that the rating system envisions. As presently constituted, LEED-ND is unlikely to succeed in the way other LEED rating systems focused on buildings have.

Smart Growth, New Urbanism, and LEED-ND

Unlike its better-known rating systems for new construction, homes, and existing buildings, LEED Neighborhood Development (LEED-ND) works at a neighborhood scale. U.S. Green Building Council (USGBC), LEED AP Neighborhood Development Study Guide (2010), at 14 [hereinafter "Study Guide"]. The rating system is the product of a collaboration between three organizations: Natural Resources Defense Council (NRDC), the Congress for a New Urbanism, and the USGBC. The three organizations are experts in three related areas: smart growth, new urbanism, and green buildings, respectively. The system is accordingly divided into three component parts: Smart Location and Linkages (NRDC's ideas about where development should be located); Neighborhood Pattern and Design (the Center for the New Urbanism's ideas about what kind of neighborhoods should be developed); and Green Infrastructure and Buildings (the USGBC's ideas about how its green building standards should expand from single buildings to entire neighborhoods).

The unit of analysis is the neighborhood, which LEED-ND defines as "an area of dwellings, workplaces, shops, and civic places and their immediate environment that residents and/or employees identify with in terms of social and economic attitudes, lifestyles, and institutions." Reference Guide, at xvi. LEED projects may consist of whole neighborhoods, portions of neighborhoods, or multiple neighborhoods. The practical limitation is that the project at a minimum must have at least two habitable buildings and that the maximum area that can appropriately be considered a neighborhood is 320 acres, or half a square mile. Reference Guide, at xiv. The Reference Guide suggests a typical size of 40 to 160 acres, based on a comfortable distance for walking from the center of the neighborhood to its edge. Reference Guide, at xvii. The upper limit of 320 acres is based on research that shows that people will walk as far as a half-mile (2,640 feet) to reach heavy rail transit systems or more specialized shops or civic uses. Reference Guide, at xvi.

The rating system is designed primarily for the planning and development of new neighborhoods, whether infill sites or new developments proximate to diverse uses or adjacent to connected and previously developed land. Reference Guide, at xiv. It rewards redevelopment of aging brownfields into revitalized neighborhoods by rewarding connections beyond the site, walkable streets within the site, and the integration of any historic buildings and structures that will give the new neighborhood development a unique sense of place. Reference Guide, at xiv. It is also intended to support projects that retrofit the suburbs, such as reviving old shopping centers and their surrounding parking lots or adding new units and vibrant, walkable town centers to existing subdivisions. Reference Guide, at xv.

LEED-ND Smart Growth Prerequisites (SLL)

The Smart Location and Linkages (SLL) segment of LEED-ND focuses on selection of sites that minimize the adverse environmental effects of new development and avoid contributing to sprawl and its consequences. Reference Guide, at 31. This "smart growth strategies" segment especially targets increased automobile travel as "one of the most damaging consequences of sprawl." *Id.* LEED-ND gives preference to locations close to existing town and city centers, sites with good transit access, infill sites, previously developed sites, and sites adjacent to existing development. *Id.* It also targets fragmentation and loss of habitat by discouraging development of wetlands, floodplains, and agricultural lands. Reference Guide, at 32.

The five SLL prerequisites are the sine qua non of LEED- ND, without which an applicant need proceed no further: smart location, imperiled species and ecological communities conservation, wetland and water body conservation, agricultural land conservation, and floodplain avoidance. Reference Guide, at 34. SLL requires that the project site be served by existing water or wastewater infrastructure or in a service area where water and wastewater infrastructure for the project is provided. Reference Guide, at 35. The site must also be an infill site, an adjacent site with connectivity to adjacent development, a site along a transit corridor or route with adequate transit service, or a site with nearby neighborhood assets. Reference Guide, at 35–40. The sum and substance of the Smart Location and Linkages prerequisites is to screen out many areas from possible certification. In the main, nonurban locations need not apply. On the other hand, many SLL requirements simply do not apply to "previously developed sites" in an urban area.

How aspects of this requirement are measured is also informative. Connectivity means that as to the site and adjacent lands there must be at least ninety intersections/square mile as measured within a one-half-mile distance of a continuous segment of the project boundary. Reference Guide, at 35. Interestingly, though, the project developer may not have constructed or funded the intersections within the past ten years. Reference Guide, at 35. So in this prerequisite, LEED-ND really is not seeking to reward walkability or connectivity per se. Instead, it only rewards connectivity already existing—indeed existing for ten years if constructed by the same developer. Without such ancient connectivity, a developer must locate a project on an infill site, a transit corridor, or with nearby neighborhood assets in order to qualify for LEED-ND.

The second SLL prerequisite in LEED-ND is called Imperiled Species and Ecological Communities Conservation. Reference Guide, at 53. This prerequisite requires consultation with state Natural Heritage Programs and state fish and wildlife agencies to determine whether endangered or imperiled species may be present on the project site and, if so, to conduct biological surveys to determine the matter. Where there may be such species, the developer must comply with a Habitat Conservation Plan or its equivalent—perhaps requiring buffers or substitute habitat or similar or better quality. Reference Guide, at 53–54. While this prerequisite may do little more than require substantial compliance with existing environmental law, it requires that developers "contract with environmental professionals to conduct site assessments for imperiled species, wetlands and water bodies, floodplains, prime soils for agriculture, and other sensitive environmental features." Reference

Guide, at 58. Without such a contract, obviously LEED-ND may not be pursued.

The third LEED-ND prerequisite, while similar, is more precise. It is called Wetland and Water Body Conservation and is intended to "preserve water quality, natural hydrology, habitat, and biodiversity through conservation of wetlands and water bodies." Reference Guide, at 61. Obviously, the preference is to avoid wetlands and water bodies, requiring no project land within 50 feet of a wetland or 100 feet of a water body. Reference Guide, at 61. Where that is not possible, though, LEED-ND generally requires either that the project does not affect *pre-project* sensitive lands, "unless the development is minor improvements or is on *previously developed* land." Reference Guide, at 61. Minor improvements within a buffer must "be open to public access." Reference Guide, at 62. LEED-ND asserts, "If appropriate for the particular wetland or water body, providing public access is an effective way to instill a sense of stewardship in project residents and visitors." Reference Guide, at 63. LEED-ND micromanages the definition of minor improvement, forbidding off-street parking, limiting clearings to "one per 300 linear feet of buffer," and limiting removal of hazardous trees (e.g., "up to 75% of dead trees"). Reference Guide, at 62. The likely more important exception, though, is the one for previously developed land. Previously developed does not mean previously cleared, nor does it mean land cleared and previously permitted for development. Study Guide, at 28. The land has to have been "altered by paving, construction, and/or land use that would typically have required regulatory permitting." Study Guide, at 28. Where this situation exists, the 50-feet and 100-foot buffers do not apply. This obviously advantages "redevelopment" within a previously defined development footprint and associated land alterations over other sites. Study Guide, at 28. In short, you need a previously developed site to build right on the water or right next to the wetland.

The fourth prerequisite, Agricultural Land Conservation, aims to protect irreplaceable agricultural resources by protecting prime and unique soils on farmland and forestland from development. Reference Guide, at 71. As a result, the prerequisite absolutely prohibits a project site within a state or locally designated agricultural preservation district. *Id*. It goes beyond this, though, to limit development where there are prime or unique soils to infill sites, where a site is a "designated receiving area under a publicly administered farmland protection program that provides for the transfer of development rights," or where there is provision for mitigation of the loss of soils "through the purchase of easements providing permanent protection from development on land with comparable soils in accordance with ratios based on densities per acre of buildable land" as listed in LEED-ND's Reference Guide. Reference Guide, at 71–72. The density calculation can be adjusted where land area is dedicated to community gardens. Reference Guide, at 74. This prerequisite requires a developer to consult with agricultural scientists, ecologists, or land-use planners who can provide site-specific expertise and interpret soil maps, land-use maps, and other data relevant to soils and agriculture on the site. Reference Guide, at 74. The thrust, though, is to discourage projects in rural areas. LEED-ND's Reference Guide concludes, "Projects in rural areas are more likely to encroach on agricultural land than projects in urban and infill locations." Reference Guide, at 76.

The fifth prerequisite is Floodplain Avoidance. Again the preference is to locate on a site "that does not contain any land within a 100-year high or moderate-risk floodplain as defined by the Federal Emergency Management Agency (FEMA) or a state or local floodplain management agency, whichever is more recent." Reference Guide, at 79. Again, however, the previously developed site or portions of other sites with floodplains that are previously developed are largely exempt, so long as it is "used in accordance with a FEMA-approved mitigation plan." *Id.* Critical facilities must be built so as to be protected and operable during a 500-year event. *Id.* In other areas, previously undeveloped portions of the site within the 100-year high- or moderate-risk floodplain cannot be developed unless they lie in a qualifying nonconveyance area. To meet this prerequisite, a developer is likely to need to "consult with hydrologists, environmental engineers, or other qualified professionals who can provide specific expertise, interpret flood maps, and

provide other data relevant to floodplain avoidance." Reference Guide, at 82.

The overall thrust of the "smart growth" or SLL requirements of LEED-ND is to restrict development to areas that have already been developed. It does this by exempting previously developed areas from stringent requirements that otherwise apply. The retrofitting of suburbia touted in LEED-ND often will be unlikely because of biases built into the program. Many developments are gated communities, and LEED-ND will not count streets that are not "publicly accessible" in its connectivity calculations. Reference Guide, at 24. Similarly, intersections leading only to cul-de-sacs are not counted. Reference Guide, at 24.

The New Urbanism Prerequisites (NPD)

Even if the "Smart Growth" prerequisites for certification under LEED-ND are met, the overlapping "New Urbanism" prerequisites may be even more difficult to meet in many areas. If "Smart Growth" (SLL) focuses on "where" there should be neighborhood development, Neighborhood Pattern and Design (NPD) focuses on "what" kind of development is acceptable. U.S. Green Building Council, LEED for Neighborhood Development: A Credit-by-Credit Review: Smart Location and Linkage Credits (recorded July 29, 2009) (comment of moderator Joanna Muench). The NPD prerequisites emphasize the creation of compact, walkable, mixed-use neighborhoods with multiple connections to nearby communities. Reference Guide, at 149. This includes "small block sizes," slower traffic speeds, and other measures that encourage pedestrian activity. *Id.* NPD also encourages diverse housing types that accommodate a range of incomes, ages, and physical abilities, enabling residents to live closer to their workplaces and helping communities retain residents. *Id.*

LEED-ND's antiautomobile bias is more than energy efficiency, the quest for low-emission vehicles, or the objective of reducing vehicle miles traveled (VMT). The prerequisite for NPD's walkable streets (NPD Prerequisite 1) supposedly emphasizes VMT, but some of its measures associated with this prerequisite seem essentially aesthetic. Reference Guide, at 153. For example, the prerequisite requires minimum building height-to-street ratios and functional entries from the street. LEED 2009 for Neighborhood Development Rating System, at 41 (updated Feb. 2011) [hereinafter "Rating System"]. The height-to-street ratios are justified on the grounds that they "create a sense of enclosure and feel comfortable to pedestrians." Reference Guide, at 156. The prerequisite also sets a maximum amount of street frontage that may be dedicated to garage and service bay openings based on the theory that such features "are often unpleasant to walk by." Reference Guide, at 157; *see* Rating System, at 41. Of course, there are exemptions that may be authorized by a local historical preservation entity for many of these requirements. Rating System, at 41.

The prerequisite for NPD's connected and open community (NPD Prerequisite 3) flatly bans gated areas, with the exception of education, health care, and military bases "where gates are used for security purposes." Reference Guide, at 175. Outside of these exceptions, land area within any gated enclave is not counted in calculations concerning internal connectivity, such as intersections. Reference Guide, at 179. More seriously, suburban cul-de-sac cause failure because of the desire for a neighborhood to be "well connected to the community at large." Reference Guide, at 175. In fact, there is little acknowledgment of the value of a neighborhood's security anywhere in LEED-ND. This contrasts starkly with Miami 21, Miami's form-based building code, which expressly incorporates Crime Prevention through Environmental Design (CPTED). Miami 21, § 2.1.3.3; *see* http://cptedsecurity.com/cpted_design_guidelines.htm. CPTED strategies rely upon the ability to influence offender decisions that precede criminal acts. http://en.wikipedia.org/wiki/Crime_prevention_through_environmental_design. One would have thought that any neighborhood design rating feature has the potential to favor smart growth features, where residential single-use neighborhoods may sit desolate during working hours or where mostly gridded streets are well patrolled. Richard S. Geller, *The Legality of Forms-Based Zoning Codes*, 26 J. LAND USE & ENVT'L L. 35, 63 (2010). But LEED-ND does not measure such factors at all.

A core NPD prerequisite is minimum density. NPD Prerequisite 2: Compact Development, Rating System, at 42. There is serious debate about whether compactness or density requirements such as those mandated in LEED-ND actually promote the environmental values upon which the requirements are premised. *See, e.g.*, Marcial H. Echenique, Anthony J. Hargreaves, Gordon Mitchell, and Amil Namdeo, *Growing Cities Sustainably*, 78 J. AM. PLANNING ASS'N 121 (Spring 2012) (Urban form policies' "influence on energy consumption and land use is very modest; compact development should not automatically be associated with the preferred spatial growth strategy."). Density plays a small part in energy consumption if the price of fuel and other automobile travel costs, relative to income, are included in the analysis. (Ian Gordon, *Density and the Built Environment*, 36 ENERGY POLICY 4652 (2008) [hereinafter "Gordon"]; Ian Gordon, *Densities, Urban Form and Travel Behaviour*. 66 TOWN & COUNTRY PLANNING 239 (1997). There are probably more direct ways to achieve the reduction in driving associated with greenhouse gas reductions to which the density and compactness requirements are supposedly directed. Examples may include tighter Corporate Average Fuel Economy (CAFE) standards for fuel efficiency, increases in fuel prices, or carbon taxes. *See* Randall O'Toole, *The Myth of the Compact City: Why Compact Development Is Not the Way to Reduce Carbon Dioxide Emissions*, at 7–18 (Nov. 18, 2009) (discussing underlying data in various reports advocating compact development); Echenique et al., at 136 ("In many cases, the potential socioeconomic consequences of less housing choice, crowding, and congestion may outweigh its very modest CO_2 reduction benefits. . . Achieving the targets on reducing CO_2 emissions can be more effectively pursued using technological improvements such as switching to non-fossil fuel energy sources."); Ian Gordon, Density and the Built Environment ("[P]lanning operates only at the margins of physical development, with much slower and more modest impacts on the behaviour of the population as a whole than would changes in relative transport costs, in particular."). None of these alternatives are directly addressed in the LEED-ND rating system. Furthermore, there is considerable evidence that as incomes rise people increase demand for space both inside and outside the home and on average do so faster than they boost demand for accessibility and centrality. Gordon, at 4655. Thus, people actually may prefer lower densities, New Urbanism sponsored or endorsed surveys to the contrary notwithstanding. Dernbach, at 74, 314 (citing a 2004 National Community Preference Survey from Smart Growth America).

Green Building Prerequisites (GIB)

The third aspect of LEED-ND, familiar to professionals who know the USGBC's other rating systems, is Green Infrastructure and Buildings, which focuses on the traditional concerns of the USGBC: buildings that support sustainability goals. *See* U.S. Green Building Council, LEED 2009 for New Construction and Major Renovations (updated July 2012). The basic LEED-ND approach is very simple, requiring that a neighborhood to some degree include certified green buildings and meet energy efficiency, water efficiency, and construction activity pollution-prevention goals on a developmentwide basis. Using the LEED Green Building system and the energy and water efficiency standards employed in that regime, LEED-ND essentially piggybacks on the other system to set some modest green building goals, e.g., prerequisites of at least one LEED-certified building; minimum building energy efficiency neighborhoodwide using ASHRAE standards, which underlie green buildings Energy and Atmosphere credits; minimum water efficiency standards from the Energy Policy Act of 1992 used in that system; and construction pollution-prevention methods from the LEED building system. GIB credits occasionally can go beyond the building regime to greener structures through focus on such matters as solar orientation, district heating and cooling, and light pollution reduction. In the main, though, GIB simply cumulates and scales up the methodology employed for individual buildings to the collection of structures that comprise the "neighborhood."

The GIB prerequisites really are minimal, so that the LEED-ND system is a search for points in that segment. This is similar to the other LEED rating

system, where prerequisites also do not appear very stringent. But getting by the prerequisites in the SLL and NPD areas can be problematic, governed by complex calculations and the need to find exemptions as a way around very limiting requirements that otherwise apply. Because of the show-stopper quality of the SLL prerequisites, the USGBC created an additional preliminary step for potential LEED-ND applicants. Since the location of a project cannot be changed, the Green Building Certification Institute (GBCI) offers to review a project's compliance with the SLL prerequisites and inform the team whether the location qualifies. Reference Guide, at xxi. This review can come in advance of early or later stages of the project. *Id.* The optional review can permit a team "to end its participation in the program before investing more time." *Id.*

Do Americans Want Smart Growth?

To many, sustainability is an innocuous term, akin to virtue—put simply, we should be "acting as if tomorrow matters." John C. Dernbach, *Acting As If Tomorrow Matters: Accelerating the Transition to Sustainability* (2012). To some, though, the term comes from "watermelons"—green on the outside, red on the inside—and masks a hidden agenda: "less freedom, less consumption, higher taxation, more regulation and bigger government." James Delingpole, *Watermelons: The Green Movement's True Colors* 172 (2011). Meanwhile, others characterize conservatives as less open to persuasion on issues such as climate change, engaging in "intense, motivated reasoning"—reasoning slanted to their predisposition and not rooted in a balanced assessment of the factual evidence. Chris Mooney, *The Republican Brain: The Science of Why They Deny Science–and Reality* 243–259 (2012). James Howard Kunstler offers a typical ideological predisposition toward suburbia: "stuck up a cul-de-sac in a cement SUV without a fillup." *See* The End of Suburbia, *available at* www.youtube.com/watch?v=Q3uvzcY2Xug.) Hollywood hates the suburbs. Lee Siegel, Why Does Hollywood Hate the Suburbs? WALL STREET J. (Dec. 27, 2008), *available at* http://online.wsj.com/article/SB123033369595836301.html.) Critics see the principles of the "New Urbanism" as masking envy of a European urban lifestyle over America's suburbia, a yearning for the aesthetics of the Old World. Wendy Worrall Redal, 5 Ways Europeans Live Better Than Americans, Stream of Consciousness, http://blog.gaiam.com/blog/5-ways-europeans-live-better-than-americans.

Such critics tap into a common fear that someone else—that "pointy-headed intellectual," be it government bureaucrat or Wall Street financier—for ideological (even aesthetic) reasons wishes to dictate the average American's lifestyle without regard to that American's desires or that lifestyle's actual desirability. *See, e.g.*, Kevin C. Foy, *Complexities of Urban Sustainability: Using Local Land-Use Authority to Achieve Environmental Goals*, 3 CHARLOTTE L. REV. 23 (2011). The continued popularity of suburbia in America, particularly for families with children, reflects the "simple desire for privacy, quiet, safety, good schools, and close-knit communities." Kotkin. Land use regulation may protect "family values, youth values, and the blessing of quiet seclusion." *Belle Terre v. Borass*, 416 U.S. 1, 9 (1974). In fact, according to the Pew Center, most Americans who live in the city say they would prefer to live somewhere else, such as the suburbs or a small town. Pew Center, For Nearly Half of America, Grass Is Greener Somewhere Else (Jan. 29, 2009), *available at* http://pewsocialtrends.org/files/2010/10/Community-Satisfaction.pdf. While most Americans see walkability as a desirable attribute, a 2011 National Association of Realtors survey indicates that they are willing to live in communities where they have to drive most places if it means they would have larger lots with more distance from neighbors. *See* http://www.realtor.org/reports/2011-community-preference-survey. A desire for privacy is a top consideration in deciding where to live. *Id.* LEED-ND encourages stakeholder involvement in project design and planning, (Reference Guide, at 265 (NPD Credit 12 - Community Outreach and Involvement)), but community outreach and charettes do little good where prerequisites rule out citizen preferences for security or privacy before a charette even begins.

And the need for public subsidy suggests underlying inefficiencies in smart growth. For example, streetcars and railroads said to promote "livability" may be less

cost- and energy- efficient than better road maintenance and the use of buses. Randal O'Toole, *The Great Streetcar Conspiracy* (June 14, 2012). Subsidies also can mask a "crony capitalism" of "engineering firms that stand to earn millions of dollars planning, designing, and building streetcar lines." *Id.* This is the specter of Solyndra, formerly a solar energy company successful in obtaining millions in federal subsidies. Such scandals undermine public support for sustainability values. LEED-ND ignores values that Americans desire: privacy, quiet, and security. As serious, in the promotion of neotraditional aesthetics LEED-ND ignores alternative approaches to efficiencies that sustainability seeks.

LEED-ND misleads in part because it chooses the wrong unit of analysis. The genius of LEED is that the building is an obvious unit for improving sustainability along many dimensions: energy efficiency, water conservation, materials use, and indoor environmental quality. It is true that many factors affecting sustainability do not operate at that level and need a larger level of aggregation to take into account infrastructure, public spaces, and agriculture. But the half-mile neighborhood is not the correct higher level in many respects. If residents are commuting to work downtown or driving into the country for the farmer's market these aspects of daily life are missed by analyzing the "neighborhood." Indeed, new technologies enabling telecommuting could have a far greater impact on sustainability than forcing increased densities and compact communities. Telecommuting "is more likely to feed demand for lower densities and facilitate decentralization." Gordon, at 4655.

LEED is a voluntary rating system produced by a private, nongovernmental organization, the USGBC. Reference Guide, at xi-xii. It is not a legal requirement by its own terms. Reference Guide, at xv. LEED's standards at the neighborhood level have been in place only since 2009. However, in the context of the more established building certification programs, a number of states have incorporated aspects of LEED, for example, by requiring that new state buildings meet a LEED threshold. For example, Connecticut requires state buildings to meet the LEED Silver standard. Conn. General Stat. Ann. § 16a-38ka (2010). Local governments have done the same for municipal buildings. S.F. Cal. Env't Code 204-11; S.F. Ca. Env't Code 17-11 (2011). More than twenty-five cities have established some type of goals for new public buildings to meet some level of LEED standards. J. Cullen Howe, *Green Buildings and Building Energy Codes* in Hirokawa & Salkin 135, 145 (2012). The District of Columbia has gone further in its legal specificity, requiring that all new building projects guarantee LEED certification. 58 D.C. Reg. 11222 (Dec. 6, 2011) (amending D.C. Code § 6-1451.05 (2001). Other governments, such as the state of New York, without absolute mandates, have linked significant state tax credits for those building to LEED standards. N.Y. Tax Law §§19(a)(1)(A), (a)(2)-(7), (e)(3)(A). The USGBC reports, "Various LEED initiatives including legislation, executive orders, resolutions, ordinances, policies, and incentives are found in 442 localities (384 cities/towns and 58 counties and across 45 states), in 34 state governments (including the Commonwealth of Puerto Rico), in 14 federal agencies or departments, and numerous public school jurisdictions and institutions of higher education across the United States." (U.S. Green Building Council, www.usgbc.org/DisplayPage.aspx?CMSPageID=1779.

Conclusion

As presently constituted, LEED-ND is unlikely to succeed in the way other LEED rating systems have. The rating system ignores important aspects of the quality of life in modern American suburbia such as security and privacy. After all, it is possible to walk or bike along a cul de sac. If the proponents of smart growth and the new urbanism are to attract ordinary Americans to their quest for traditional neighborhoods, they must incorporate standards that recognize such missing dimensions. The aesthetics of a traditional neighborhood may not be completely congruent with factors that encourage environmental sustainability. LEED-ND ignores technological innovation, such as the implications of the Internet for telecommuting. Moreover, where crime is a problem in the traditional neighborhood, protection of children trumps the new urbanism, despite its supposedly greener nature. In fact, ignoring such realities smacks of intensely

motivated reasoning—ideology that ignores the facts. LEED-ND needs to eschew undesired, rigid aesthetic prerequisites unrelated to sustainability.

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EXPLORING THE INTEGRATION OF SMART GROWTH AND GREEN BUILDING PRINCIPLES INTO HAZARD MITIGATION

Frank McColm

Introduction

While natural hazards are inevitable, damage to the built environment is not. Hazard mitigation strategies and their implementation offer solutions to reduce or eliminate the magnitude of these impacts. The pre- and post-disaster environment provides a unique opportunity to further integrate smart growth and green building principles into communities through complementary mitigation activities. This article briefly presents hazard mitigation, discusses its relationship to smart growth and green building, and suggests methods for integrating smart growth and green building principles into mitigation.

Often, the impact of natural hazards on communities and the built and natural environments become headline news. Typically, the media focus is on societal repercussions, costs of infrastructure/asset/structural damage, and environmental degradation, although additional consequences are myriad and well documented. When exposed to this media coverage, it becomes strikingly clear the effects of natural hazard impacts are both tangible and intangible, qualitative and quantitative.

What Is Hazard Mitigation?

Mitigation is one of the four phases of the emergency management cycle—the others being preparedness, response, and recovery. Mitigation is the only phase focused specifically on reducing the long-term risk of loss of life and property. The Federal Emergency Management Agency (FEMA) defines mitigation as "(s)ustained action taken to reduce or eliminate long-term risk to people and their property from hazards and their effects." www.fema.gov/what-mitigation/federal-insurance-mitigation-administration. While a litany of natural hazards exist, some of the most commonly mitigated hazards include hurricanes and other high-wind events, floods, earthquakes,

landslides, wildfires, and winter storms. Each of these hazards presents a unique and quantifiable risk to the built environment.

Mitigation improves the built environment by strengthening existing structures and infrastructure against the impacts of natural hazards, which in turn improves a community's resiliency and their ability to recover quickly. Examples of mitigation activities include, but are not limited to:

- minor flood control projects;
- structural retrofits for high winds and wind-driven debris;
- structural and critical component elevation; and
- acquisition and demolition of at-risk structures or those that experience repetitive damage.

Rather than perpetuating a costly cycle of damage, repair, and damage, mitigation activities reduce or eliminate the risk of damage or loss, effectively breaking this cycle, and provides long-term benefits. Mitigation activities occur continuously and should not be confined to immediately following a disaster. Nevertheless, the immediate postdisaster scenario presents an excellent opportunity to implement mitigation projects and/or strategies due to funding availability and public willingness to allocate resources to limit future impacts. A study completed in 2009 found:

Using data on natural disasters, government spending, and election returns, we show that voters reward the incumbent . . . for delivering disaster relief spending but not for investing in disaster preparedness (and mitigation) spending. . . . These inconsistencies distort the incentives of public officials, leading the government to underinvest in disaster preparedness (and mitigation), thereby causing substantial public welfare losses.

Andrew Healy and Neil Malhotra, *Citizen Competence and Government Accountability: Voter Responses to Natural Disaster Relief and Preparedness Spending* (2009). The National Institute of Building Sciences (NIBS), in a previous study found that mitigation activities provide a return of four dollars for each dollar invested in them. *Natural Hazard Mitigation Saves: An Independent Study to Assess the Future Savings from Mitigation Activities*. National Institute of Building Sciences, Multi-hazard Mitigation Council. 2005. Many states have completed postimpact Loss Avoidance Assessments to evaluate the effectiveness and Return on Investment (ROI) of mitigation activities undertaken throughout the impacted area. For example, the state of Florida recently completed a Loss Avoidance Assessment for flood projects following Tropical Storm Debby. www.floridadisaster.org/Mitigation/SMF/Index.htm.

While mitigation has proved to be successful, it is naive to assume that mitigation activities will completely remove all vulnerabilities of the built environment to every natural hazard. However, focusing on cost-effective, technically feasible mitigation activities that provide long-term risk reduction or elimination are worthwhile and benefit society in many ways. Further integration of smart growth and green building principles into mitigation will add to these benefits.

Smart Growth and Mitigation

As stated in the excerpt below, an inherent relationship exists between smart growth and mitigation.

Zoning ordinances are among the planner's most effective tools for limiting damage from hazards. They have the ability to restrict development in hazardous areas to land uses that will not suffer extensive disaster losses, and they can encourage growth in safe locations. They achieve this by specifying the location, type, amount, density, and characteristics of development permitted in mapped zoning districts. Where and how these development characteristics are applied affects both the physical and the social vulnerability of the jurisdiction.

American Planning Association, *Hazard Mitigation: Integrating Best Practices into Planning* (2010).

> Zoning, local building codes and standards, and land development regulations have all been influenced and improved, in part, as a result of the high frequency of natural hazard impacts experienced in communities. A variety of building professionals, industry representatives, and

scholars routinely deploy to postdisaster areas to survey damages and examine the successes and failures of the built environment. Findings from these surveys and assessments later influence building codes, other development management tools, and construction practices improving future implementation and increasing resiliency. These findings also provide insight into existing and potential mitigation activities.

Floodplain management practices complement smart growth principles and provide an opportunity for further integration. Many communities throughout the nation actively manage floodplains within their jurisdiction to reduce the vulnerability of existing structures and new construction to flooding. One of the primary strategies employed is local floodplain ordinances, which, under certain circumstances, may prohibit new development in high-risk areas. In a 2005 paper, Tom Daniels and Mark Lapping stated, "The preservation of land for. . . protecting water supplies and floodplains is emerging as an integral component of smart growth programs." Tom Daniels & Mark Lapping, *Land Preservation: An Essential Ingredient in Smart Growth* (2005).

Natural hazard impacts can also significantly shape redevelopment patterns. Unfortunately, survivors of a disaster may be forced or opt to abandon their homes, livelihoods, and communities instead of rebuilding following a disaster. Depending on the amount of residents in this situation, the character of a community can be forever changed. Abandonment accelerates decay and may result in increased brownfield sites within the impacted community. On the other hand, this abandonment may provide unique opportunities for redevelopment to incorporate smart growth principles. Nevertheless, mitigation activities increase community resiliency thereby reducing the likelihood of abandonment.

Green Building and Mitigation

Mitigation currently embodies some green building principles and provides opportunities for further integration. Take for example the amount of disaster waste and debris that is reduced by mitigating structures and infrastructure. An additional existing green benefit of mitigation is the reduced demand for new building materials required for repairs and other recovery activities. Furthermore, through mitigation, environmental degradation resulting from natural hazard impact may be reduced. For example, floodproofing a structure that contains hazardous chemicals can prevent those chemicals from contaminating floodwaters.

Planning is an essential element to successful mitigation activities within communities and an obvious avenue for integration of green building practices into mitigation. As a condition to FEMA mitigation funding eligibility, the Disaster Mitigation Act of 2000, Public Law 106-390, requires communities to adopt local hazard mitigation plans. These plans are reviewed and approved by FEMA prior to adoption. The planning process coordinates community stakeholders to complete an all-hazards risk assessment and vulnerabilities analysis followed by the identification and prioritization of corresponding mitigation activities. The plan then guides implementation of the mitigation activities to eliminate or reduce the severity of the vulnerabilities unique to that community. Future integration of green building practices may be achieved by incorporating them into a community's hazard mitigation plan. An example of this integration may be a mitigation project to install low-emissivity, impact-resistant glass in a public building located in a high-velocity wind zone. Completion of this project would serve to increase windborne debris resistance of a building while also potentially increasing its energy efficiency.

Identifying and Garnering Resources

Hurricane Sandy and the resulting devastation throughout the Northeast is a recent and poignant manifestation of the built environment's vulnerability to the impacts of natural hazards. With some reports of damage estimates as high as $75 billion, these estimated damage values represent only a portion of the true societal costs associated with Sandy's impact. When considering the greater effect on loss of workforce productivity and jobs, interruption of economic systems, the social effects resulting from loss

of life, and impacts to community identity, this damage estimate seems low.

Congress recently passed the Superstorm Sandy bill (H.R.152) on January 4, 2013, thereby providing funding and other provisions for response and recovery efforts of the Superstorm Sandy impacts. This bill was the second of two bills that totaled over $50 billion in funding. While this legislation was contentious, the allocation of state and federal resources are common in natural hazard impacts. Fervor for taking action following a disaster is strong. Although the results of this fervor are usually positive, the willingness to act eventually fades regardless of whether vulnerability has been sufficiently addressed. This waning willingness to take action may be attributed the completion of response activities or simply the passage of time. As such, citizens, elected officials, and businesses may become somewhat complacent in addressing vulnerability when determining the best use of resources in the future.

As presented previously, Healy and Malhotra suggest voters may reward incumbents for disaster relief spending as opposed to spending on preparedness (and mitigation). While emergency protective measures can be effective, a fortress of sandbags placed around a vulnerable asset prior to a high-frequency hazard impact such as repetitive flooding may provide some protection but is less desirable than a permanent mitigation action, such as elevating the asset above the actual inundation depth of the flood. Increasing public awareness of the benefits of incorporating smart growth and green building principles into mitigation may increase community involvement and result in more efficient use of resources as well as human capital toward reaching complementary goals.

Resources to facilitate mitigation may also be available in the private sector. Mitigation activities and "above-code" building practices incorporated into structures can be an avenue for marketing commercial space thereby adding value and increasing the future commitment of resources. For example, in hazard-prone areas, landlords may implement mitigation measures to attract tenants by selling the advantages in terms of continuity of business operations that the mitigated space provides. Incorporating mitigation activities can have a major effect on the success of attracting and retaining a particular type of tenant and as a result reinforce investment in mitigation. By incorporating green building and smart growth principles into mitigation, marketability of space may be further enhanced.

Another potential benefit of mitigation that may encourage investment by the private sector includes mitigating existing infrastructure networks that are vital to commerce. It is no surprise that design and engineering techniques and technologies are more advanced today than years ago when many infrastructure networks supporting today's commerce were designed and constructed. Mitigating existing critical infrastructure, such as electrical components, transportation infrastructure, or other assets, may result in less time offline for repairs and less severe or sustained long-term damage, potentially providing significant ROI.

Conclusion

The pre- and post- disaster environments provide unique opportunities to integrate smart growth and green building principles into hazard mitigation activities. Recognizing these opportunities and taking action will help to create safer and more sustainable development for future generations. Increased stakeholder participation and coordination of existing resources will help achieve this goal.

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Thursday, October 10, 2013
Plenary Session 1 - News from the Capitol: Administration and Congressional Priorities for Energy and Environmental Law and Policy
The Corporate Supply Chain Goes Global: What You Need to Know to Counsel Your Multinational Client
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Road Warriors – A Hands-On Practical Demonstration of Technology and Ethical Perils
State Authority on Climate Change: Where are the Commerce Clause Boundaries?
Environmental Markets 2.0: The Evolving Use of Market-Based Mechanisms
Friday, October 11, 2013
Plenary Session 2—From the Top: Second Term Priorities and Perspectives from Senior EPA Officials
Renewable Energy Development: Challenges, Opportunities and Pay-Offs
TMDL Regulation: How EPA's Chesapeake Bay Initiative May Spread to Your Watershed
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