

MAKING IT EASY TO BE GREEN: USING IMPACT FEES TO ENCOURAGE GREEN BUILDING

BENJAMIN S. KINGSLEY*

Green building—the construction of buildings designed to minimize environmental impact and resource use—has become significantly more common in the past decade. Many local and state governments have enacted policies designed to stimulate green building. These policies generally include information provision, subsidies for private green development, and outright greenness requirements for all government buildings. Despite this growing commitment from government, as well as substantial evidence that green buildings are financially beneficial for private owners, the private sector has been slow to embrace green building. This Note argues that barriers to innovation in the real estate industry have rendered ineffective these local government attempts to stimulate green building and suggests that impact fees—fees imposed by local governments on land use development—will be more successful in pushing private real estate developers to build green. Although the use of these fees is subject to both state and federal constitutional constraints, an appropriately designed fee can maximize the effectiveness and efficiency of this proposal while also ensuring that the fees are constitutional.

INTRODUCTION

Green buildings—those designed to minimize environmental impact and resource use—provide a cost-effective choice for developers and policymakers looking to reduce the negative environmental effects of development. Many local governments have begun to encourage this kind of development by requiring all government buildings to be green, by providing information on green building to the private sector, and by offering subsidies to those who build green. Yet, despite this commitment from local governments, green building practices have not been widely adopted in private commercial and residential construction. Barriers to innovation in the real estate market have limited the success of programs that provide information on

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green building, and subsidies have not been sufficiently funded to be effective.

This Note proposes a model for local governments to aggressively encourage resource-efficient building by private developers through the use of impact fees—fees local governments charge to developers as conditions on approval of land use development. Under this proposal, municipalities would impose a broad array of impact fees on all new development. The fees would be linked to the projected energy, water, sewage, and transportation uses of the development, but they would decrease proportionately for developers who reduce such resource consumption by building green. Finally, the funds generated by this program would be used to further subsidize developers who build green. Through this program, local governments could create extremely effective policy incentives for green building using an existing land use tool, without emptying public coffers on subsidies or requiring significant cooperation from state governments.

Although impact fees have these significant policy advantages, they are subject to unique legal constraints, and would likely be challenged by developers under both the Takings Clause of the U.S. Constitution and state constitutional rules that restrict the ability of local governments to impose general taxes. Under either of these legal doctrines, impact fees are subject to three requirements. First, impact fees must meet the familiar substantive due process test, according to which state action must be rationally related to legitimate state goals. Second, there must be a nexus between the rationale behind the fees and the way in which the revenue generated by the fees is ultimately used. Third, the fees must be proportional to the impacts of the development in question. This Note argues that a properly designed impact fee scheme could satisfy these legal standards.

The Note will proceed in three Parts. Part I describes green building and argues that in addition to being socially beneficial, green buildings can also provide financial benefits to their owners. Part II evaluates the major policy avenues available for the promotion of green building, including information provision, subsidies, requirements, taxes, and fees. It concludes that taxes and fees provide the most efficient way to effectively incentivize the adoption of green building practices, and that between these two alternatives, impact fees are the best option available to many local governments. Part III analyzes the legal challenges that may be brought against the use of impact fees by local governments and concludes that, if structured appropriately, an impact fee plan designed to stimulate green building can withstand these challenges.

I GREEN BUILDING

On a basic level, “green building” is an intuitive term: It means environmentally friendly construction. The actual building methods and technologies that can be used to make a building green, however, are not nearly as straightforward as the term implies. The costs and benefits of the practice also require some explanation. This Part aims to clarify these issues and to provide some background on green buildings, describing exactly what they are, how they are certified, how much they cost, and what kinds of benefits they provide.

A. *Background on Green Building*

Green building has been defined as “the practice of 1) increasing the efficiency with which buildings and their sites use energy, water, and materials and 2) reducing building impacts on human health and the environment, through better siting, design, construction, operation, maintenance, and removal.”¹ Green buildings limit resource use and environmental impact for the entire life of a building—from resource extraction to disposal—while at the same time providing occupants with as healthy an environment as possible.² To do so, green buildings have many design features that are not standard for most construction projects.³

The nonprofit United States Green Building Council (USGBC), primarily composed of leaders from the real estate industry, is a leading organization promoting the green building movement.⁴ USGBC has developed the Leadership in Energy and Environmental Design (LEED) rating system, a “benchmark for the design, construction, and operation of high performance green buildings.”⁵ LEED is

¹ Bldg. Design & Constr., *White Paper on Sustainability: A Report on the Green Building Movement*, BLDG. DESIGN & CONSTR. 4 (2003) (SUPPLEMENT), available at <https://www.usgbc.org/Docs/Resources/BDCWhitePaperR2.pdf> [hereinafter *White Paper*] (quoting Office of Federal Environmental Executive); see also Charles J. Kibert, *Green Buildings: An Overview of Progress*, 19 J. LAND USE & ENVTL. L. 491, 491–92 (2004) (describing green buildings as “facilities designed, built, operated, renovated, and disposed of . . . for the purpose of promoting occupant health and resource efficiency plus minimizing the impacts of the built environment on the natural environment”).

² See Kibert, *supra* note 1, at 494–95 (discussing ethical, economic, and health advantages of green buildings compared to conventional buildings).

³ See Nancy J. King & Brian J. King, *Creating Incentives for Sustainable Buildings: A Comparative Law Approach Featuring the United States and the European Union*, 23 VA. ENVTL. L.J. 397, 405 (2005) (describing nonstandard characteristics of green buildings).

⁴ *Id.* at 406; U.S. Green Bldg. Council, About USGBC, <http://www.usgbc.org/DisplayPage.aspx?CategoryID=1> (last visited Nov. 10, 2007).

⁵ U.S. Green Bldg. Council, LEED Rating Systems, <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=222> (last visited Feb. 26, 2008).

“the most widely accepted” green building certification program in the United States.⁶ LEED functions on a point system; buildings must earn a certain number of points to achieve a given level of certification.⁷ USGBC requires documentation and modeling of the operation of all completed building features that receive LEED points.⁸ Based on this information, USGBC awards certification at one of four levels—Certified, Silver, Gold, or Platinum—depending on the number of points a project has received.⁹ The emphasis on total points offers flexibility to builders, but it also means that LEED buildings are not required to reach any specific goals.¹⁰

LEED rating systems vary based on the type of construction project being evaluated. The LEED “New Construction” standards for commercial buildings allow builders to seek credits in six categories: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, and design innovation.¹¹ The LEED “Homes” rating system for residential buildings includes all of these categories as well as two others.¹² Some of the LEED

⁶ *White Paper*, *supra* note 1, at 7. No other certification system in the United States approaches the popularity of LEED, though some states, such as New York and Pennsylvania, have established their own high-performance building standards. Notably, the New York standards draw heavily on LEED. GREG KATS, CAPITAL E, THE COSTS AND FINANCIAL BENEFITS OF GREEN BUILDINGS 2–4 (2003), available at https://www.usgbc.org/Docs/Resources/CA_report_GBbenefits.pdf.

⁷ See U.S. GREEN BLDG. COUNCIL, LEED FOR NEW CONSTRUCTION & MAJOR RENOVATIONS 7 (version 2.2, 2005), available at <http://www.usgbc.org/ShowFile.aspx?DocumentID=1095> [hereinafter LEED-NC] (noting point totals required to reach “Certified,” “Silver,” “Gold,” or “Platinum” status).

⁸ Auden Schendler & Randy Udall, *LEED Is Broken; Let's Fix It*, GRIST, Oct. 26, 2005, <http://www.grist.org/comments/soapbox/2005/10/26/leed/index1.html>. LEED has numerous critics, and the extensive bureaucratic certification process is a favorite target of those who argue that LEED needs a severe overhaul. *Id.* Nevertheless, LEED remains the national leader in green building standards.

⁹ LEED-NC, *supra* note 7, at 7.

¹⁰ As such, a building can achieve a high level of certification without receiving any points in crucial areas such as energy efficiency. See *White Paper*, *supra* note 1, at 10 (showing that average percentage of energy points achieved by LEED-certified buildings out of total points available is lower than for any other point category); Schendler & Udall, *supra* note 8 (describing how “you can certify a building without doing much at all” and “you can ‘certify a building without getting any energy points’” (quoting LEED consultants)). For this reason, LEED has been criticized for allowing developers to grab “low-hanging fruit”; in other words, developers can target the points for which qualification is easy and reach the stratosphere of LEED certification without achieving anything extraordinary. *Id.* at 10–11. This critique will be relevant when analyzing the constitutionality of policies that use energy-based impact fees to subsidize buildings that achieve LEED certification without improving energy efficiency. See *infra* Part III.B.

¹¹ LEED-NC, *supra* note 7, at 6–7.

¹² U.S. GREEN BLDG. COUNCIL, RATING SYSTEM FOR PILOT DEMONSTRATION OF LEED FOR HOMES PROGRAM 21–22 (version 1.72, 2005), available at <http://www.usgbc.org/ShowFile.aspx?DocumentID=855>. The additional categories are (1) loca-

points specify actual design characteristics—e.g., bicycle racks or roofs that reflect sunlight—while others merely require that a building reach a target standard of efficiency, such as a twenty percent improvement in energy or water efficiency.¹³

The specifics of the LEED New Construction standards demonstrate the kinds of technological details that make a building green. Builders are awarded sustainable site points for redeveloping environmentally damaged land, locating a building near public transportation, restoring natural habitats, limiting storm water runoff, and covering a large portion of a roof with highly reflective material or vegetation.¹⁴ Water efficiency points are awarded for using only rainwater for irrigation systems, reducing water use for sewage, and reducing potable water consumption.¹⁵ Energy and atmosphere points are awarded for improving energy consumption significantly above building code requirements, using on-site renewable energy, and purchasing green power from utility providers.¹⁶ Materials and resources points are awarded for recycling construction and demolition waste, using recycled materials or those manufactured near a project, and using certified sustainable wood.¹⁷ Lastly, indoor environmental quality points are awarded for increasing ventilation, using low pollutant-emitting adhesives, paints, coatings, carpets, and composite products; providing occupant controllability of temperature and lighting; and increasing daylight in most space used for visual tasks.¹⁸ This long list of options only covers some of the ways in which developers can achieve LEED points.

B. Costs and Benefits of Green Buildings

By meeting the criteria described above, green buildings can provide positive externalities to society and can mitigate the negative externalities of the built environment.¹⁹ In other words, they reduce

tion and linkages, which gives points for sprawl-reducing dense development that is located near already-existing infrastructure and not on virgin land, and (2) homeowner awareness of LEED. *Id.* at 21–29. The points available in the categories common to LEED New Construction differ slightly, but generally involve similar improvements. *Id.* at 21–22; LEED-NC, *supra* note 7, at 6–7.

¹³ LEED-NC, *supra* note 7, at 6–7.

¹⁴ *Id.* at 11–12, 16, 19, 21.

¹⁵ *Id.* at 25–26, 28.

¹⁶ *Id.* at 33, 36, 42.

¹⁷ *Id.* at 47, 59, 53, 56.

¹⁸ *Id.* at 61, 65–72, 75.

¹⁹ See King & King, *supra* note 3, at 397 (“Sustainable commercial buildings use less energy, have reduced environmental impacts, and improve the quality of life for those who work or live in the buildings and surrounding communities.”).

the “divergence between private and social cost”²⁰ (or, implicitly, between private and social benefit) by forcing developers to bear the full social costs of their projects. This is the social benefit of green building.²¹ In addition, green buildings provide private benefits. For users, they reduce operating costs and provide a healthier and more productive work environment; for owners, they may command higher rents and provide lower turnover and vacancy rates.²² The key question is not whether these private benefits exist, but rather whether they outweigh the added private costs of building green.²³

The social benefits associated with green buildings are numerous and well established in the literature and, as such, will not be evaluated in depth here. They include lower pollution from reduced energy use, reduced water consumption and wastewater output, reduced solid waste creation, cleaner outdoor air and reduced “heat island” effects, improved health of building users, and other nonquantifiable long-term improvements to the environment such as the human and environmental welfare gains of sustainable forestry.²⁴ This list is not exhaustive, although many green buildings result in serious improvements only in some of these categories.²⁵ These social benefits more

²⁰ Carl J. Dahlman, *The Problem of Externality*, 22 J.L. & ECON. 141, 141 (1979).

²¹ The question of whether the social benefits provided by green buildings are positive externalities or reductions in negative externalities is simply a matter of defining the baseline for the appropriate use of environmental resources generally. Green buildings do both under any reasonable baseline. See *infra* note 74 (describing how many positive externalities created by green buildings can be seen as reductions in negative externalities). Because green buildings both provide positive externalities and reduce negative externalities, this Note, for convenience, uses the term “social benefits” to describe all of the desirable externality effects created by green building.

²² See KATS, *supra* note 6, at 9–10 (offering comprehensive evaluation and attempting to quantify financial costs and benefits of building green, including those relevant to private users and owners); ROYAL INST. OF CHARTERED SURVEYORS, GREEN VALUE: GREEN BUILDINGS, GROWING ASSETS 3 (2005), available at <http://www.rics.org/Practice areas/Builtenvironment/Sustainableconstruction/Green%20value.html> (follow “Green Value Report” hyperlink) (claiming that green buildings can improve asset value for owners and users, in addition to providing healthier work environments).

²³ See KATS, *supra* note 6, at vi (“While there seems to be consensus on the environmental and social benefits of green building, there is a consistent concern . . . over the lack of accurate and thorough financial and economic information.”); ROYAL INST. OF CHARTERED SURVEYORS, *supra* note 22, at 3 (stating that various studies “generally do not show whether the increased cost [of building green] is offset by improvements in value”).

²⁴ KATS, *supra* note 6, at v, vii. “Heat island effect” describes the increased temperature of urban environments when compared to their surrounding areas. Environmental Protection Agency, Heat Island Effect, <http://www.epa.gov/hiri/> (last visited Mar. 25, 2008). Health benefits are the only area which lacks significant supporting evidence. See *infra* note 42.

²⁵ Generally, negative externalities in this context result from a traditional “tragedy of the commons” problem in which people who use environmental resources—such as clean air—are not required to pay for these resources. See Garrett Hardin, *The Tragedy of the Commons*, 162 SCIENCE 1243, 1244–45 (1968) (explaining “tragedy of the commons”

than justify government encouragement of green building, but they are not, on their own, sufficient motivation for the private sector to embrace the practice.

As a result, governments and green building advocates have attempted to establish the private costs and benefits of green building, with the hope of convincing developers and owners that building green will be good for their bottom lines.²⁶ Estimates of the added costs of environmentally friendly construction fall in a considerable range and are subject to certain criticisms.²⁷ Nevertheless, some sense of the cost of green building can be gleaned from the literature. One

problem in context of pollution). Pollution is the classic externality of this sort, as it directly results in social costs not incurred by polluters. However, the application of the idea of externalities to some of the other phenomena described here is more complicated. For example, reduced water use is an externality because the private price of water and sewage services rarely reflects the total social cost of providing these services. Both are subsidized in a number of ways by government, and their overuse creates externalities felt by future generations. See, e.g., Bruce Lambert, *As Aquifer Runs Dry, L.I. Water Debate Ensues*, N.Y. TIMES, Dec. 2, 2006, at B1 (describing debate over use of underground Long Island aquifers as water supplies in currently used aquifers dwindle). Similarly, solid waste disposal is often subsidized by local governments, and the cost of waste removal rarely accounts for the environmental effects of landfills. Although health benefits to residents or users of green buildings could be internalized in certain situations—for example, owners or residents of green buildings may be willing to pay more for a healthier work or home environment—the market will likely undervalue these benefits as they are difficult to measure and may not be realized immediately.

²⁶ See, e.g., KATS, *supra* note 6, at ix (arguing that green buildings save money over time compared to conventional buildings); LISA FAY MATTHIESSEN & PETER MORRIS, *COSTING GREEN: A COMPREHENSIVE COST DATABASE & BUDGETING METHODOLOGY 3* (2004), available at http://www.usgbc.org/Docs/Resources/Cost_of_Green_Full.pdf (attempting to establish budgetary guidelines for green building).

²⁷ It is difficult to establish a good baseline value for the cost of nongreen buildings for the purpose of comparison. There are two main reasons for this difficulty. First, accurate cost information is hard to find. It is extremely expensive for developers to make hypothetical inquiries by studying how much it will cost to design and construct a building that will never be built. Governments have no need to do this comparison because they are either required by law to build green or they are not (and thus have little reason to consider the practice). When legislatures pass laws mandating green public buildings, they are passing laws that all government buildings of a certain type must achieve a certain level of greenness, so they do not do a rigorous cost-benefit analysis for any one building. Though such legislatures theoretically could consider overall total fiscal costs of these mandates, they do not necessarily pass these laws because they expect to save money. They do so instead for the externality reasons, which are generalized but sufficient to convince environmentally conscious local legislatures. Furthermore, private green buildings are scarce, and corporations are often unwilling to provide sensitive cost information to researchers.

Second, many builders estimate the added marginal cost of specific LEED components that will help them reach a specific certification level instead of determining the cost of a holistically designed green building. This practice results in higher cost estimates, as designing green from the outset for an entire building is by far the least expensive way to incorporate a large number of green features. See Schendler & Udall, *supra* note 8 (describing “point mongering” as “obsessively focus[ing] on getting [LEED] credits” instead of holistically designing greenest building possible).

widely cited study suggests added costs in the range of zero to two percent, according to interviews with those involved in the design and construction of thirty-three LEED-registered projects.²⁸ Other research has compared actual costs for various buildings owned by universities, finding great variation in added cost for different kinds of buildings in different regions.²⁹ Lisa Fay Matthiessen and Peter Morris conclude that there is no statistically significant overall cost difference between buildings that achieve LEED certification and those that do not.³⁰ Generally, this methodology estimates added costs to be around one to four percent for LEED Silver buildings, three to six percent for LEED Gold buildings, and eight to ten percent for LEED Platinum buildings.³¹ Others who have worked extensively with green buildings have estimated that LEED certification adds one to five percent to the costs of a new project.³²

A significant portion of the additional costs of building green derives not from the hard costs of purchasing green systems and materials but rather from the soft costs of design, certification, modeling, and consulting.³³ Paying engineers and architects to create radically new designs is not only expensive, but also unpredictable, and unpredictability itself is a significant cost for risk-averse actors such as real estate developers.³⁴ Moreover, unfamiliarity with green technologies makes delays in the design and construction process more likely, a particularly significant cost in an industry in which many independent actors work on finely choreographed and intertwined schedules.³⁵ Greater delays also mean more debt service.³⁶ For those

²⁸ KATS, *supra* note 6, at 15. The Kats report compares only self-reported estimates of cost, which may lead to some bias. The report has a number of critics, but none have successfully undermined its general claim that green buildings are not much more expensive than standard buildings. See, e.g., Schendler & Udall, *supra* note 8 (“Instead of using fuzzy math to show that building green doesn’t add costs, let’s acknowledge that these buildings cost more and are worth it.”).

²⁹ MATTHIESSEN & MORRIS, *supra* note 26, at 14.

³⁰ *Id.* at 18–19.

³¹ *Id.* at 16.

³² Schendler & Udall, *supra* note 8.

³³ See *id.* (describing new green building projects as akin to entering “a thorny new landscape”). Schendler and Udall also blame LEED’s bureaucratic certification process for some of these costs. *Id.* The LEED bureaucracy, however, is not inherent to the green building process itself.

³⁴ See *infra* notes 54–67 and accompanying text for a discussion of risk aversion in the real estate industry.

³⁵ See PRESIDENT’S COMM. ON URBAN HOUS., A DECENT HOME 117 (1962) (describing “fragmentation” of housing industry into various “interlocking producing units”).

³⁶ See SHERMAN J. MAISEL, FINANCING REAL ESTATE 346 (1965) (describing significant reliance on outside credit in real estate industry); SHERMAN J. MAISEL & STEPHEN E. ROULAC, REAL ESTATE INVESTMENT AND FINANCE 383 (1976) (discussing importance of relationship between cash flow and debt service).

experienced with building green, the process is considerably more predictable and delays are less frequent.³⁷ As such, soft costs will likely decrease significantly as the market becomes more familiar with green building practices.

Many of the cost savings of green buildings are well documented. Some of the biggest savings come from reduced energy use. On average, LEED Certified buildings use eighteen percent less energy than conventional buildings, LEED Silver buildings use thirty percent less, and LEED Gold buildings use thirty-seven percent less; the total average, then, is twenty-eight percent less energy consumption than conventional buildings.³⁸ A large portion of these savings accrues at times when energy costs peak, resulting in an average total peak energy reduction of about forty percent.³⁹ Water efficiency also saves money. Green buildings can use thirty percent less water indoors and fifty percent less water outdoors as compared to conventional buildings.⁴⁰ Savings also result from lower “churn” costs: Because green buildings generally feature under-floor heating, cooling, electrical, and data systems, when offices are rearranged, air ducts and wires do not have to be moved.⁴¹ Lastly, green buildings save money through improvements to the health and productivity of workers by positively affecting air quality, increasing control over temperature and lighting, and providing greater sunlight in indoor spaces.⁴²

Given these private benefits, it is unsurprising that cost-benefit analyses find that green buildings are good investments. Indeed,

³⁷ See Schendler & Udall, *supra* note 8 (arguing that LEED buildings cost more partially because they require use of tools with which designers are inexperienced).

³⁸ KATS, *supra* note 6, at 23–24.

³⁹ *Id.* at 24. Assuming an average electricity price of \$0.11/kWh and an average annual discount rate of capital of five percent—both figures used by Kats throughout his study—a thirty-percent reduction in energy use saves \$5.48 per square foot of space over a twenty-year period; the reduction of another ten percent in peak energy use saves an additional \$0.31 per square foot. *Id.* at 27.

⁴⁰ *Id.* at 40. Kats estimates the cost savings for water at \$0.51 per square foot over twenty years. *Id.* at 46.

⁴¹ *Id.* at 75. Under-floor air systems are generally designed to allow space flexibility, improved ventilation, and quieter working conditions. *Id.* at 73. Churn-cost reductions result in a twenty-year savings of about \$4.98 per square foot. *Id.* at 77.

⁴² *Id.* at 54–70. If accurately described, these health and productivity savings dwarf all others, at \$36.89 per square foot over twenty years for LEED Certified or Silver buildings and \$55.33 per square foot for Gold and Platinum buildings. *Id.* at 68. Predictions about these savings, however, are no more than rough estimates extrapolated from studies that show independent gains in each of these impact areas. *Id.* at 67. Still, there are likely to be significant productivity gains for workers in green buildings, even if the evidence is too soft at this point to expect employers to demand green office buildings en masse on this basis alone.

energy savings alone cover the additional costs of building green.⁴³ Even some who have criticized green building advocates for exaggerating gains or understating costs believe that the practice ultimately pays off financially.⁴⁴ Although not every green system is likely to be cost-effective for private developers—for example, certain water recycling or renewable energy systems cost significantly more money than they save—holistic, resource-minimizing design almost certainly is cost-effective.⁴⁵

This does not mean that green buildings are inherently more profitable for developers. Failures in the real estate market may prevent builders from capturing the savings experienced by users of green buildings.⁴⁶ Indeed, despite considerable effort by many local governments, surprisingly few—thirty-three percent—of the projects currently registered with LEED were built by the private sector.⁴⁷

This incongruity might be explained by the gap between the actual and perceived costs of building green. Developers and contractors estimate that the added costs of green buildings range from thirteen to eighteen percent over conventional buildings.⁴⁸ Moreover, a

⁴³ *Id.* at 85. Kats estimates that green buildings save ten times as much money as they cost. *Id.* The Kats report accounts for some public benefits that result from green buildings—such as reduced water use—but the vast majority of the benefits described are private. *See id.* at 84 (discussing discrepancies between public and private benefits). The productivity benefits cited by Kats are not as well documented as the other benefits. *Id.* at 85. Despite these weaknesses, however, energy and maintenance savings alone account for twenty-seven percent of the estimated benefits and are enough to far outstrip the added cost of building green. *Id.* At the very least, the report demonstrates that green buildings are indeed financially beneficial for private owners.

⁴⁴ *See* Schendler & Udall, *supra* note 8 (stating that advocates should acknowledge that green buildings “cost more and are worth it”).

⁴⁵ *Cf.* KATS, *supra* note 6, at 12 (citing “incomplete integration within and between projects” as major cause of higher costs in green building). The net financial effects of green building depend on the discount rate of capital—the rate at which future income produced by an asset should be discounted when valuing it in the present. To the extent that a green building does cost more, it costs more up front, while it only saves money over time. *Id.* at 9–10. Yet even with high discount rates, most green buildings pay off quickly. *See id.* at ix (concluding that over twenty years, green buildings save over ten times more than they cost).

⁴⁶ The research described above mostly focuses on government and university buildings, which are generally built by and for their future owners. *See id.* at 98 (listing buildings considered by Kats report).

⁴⁷ *White Paper*, *supra* note 1, at 12. Overall, as of 2003, 10% of LEED projects were federal government projects, 13% state government, 25% local government, 14% non-profit corporations, and 5% “other.” *Id.* The added cost of LEED certification itself may be a disincentive that prevents private sector developers from registering their buildings. Thus, this figure may be artificially low; there may be many unregistered green buildings whose users reap operational benefits without having gone through the LEED certification process.

⁴⁸ BENJAMIN CRYER ET AL., *EVALUATING THE DIFFUSION OF GREEN BUILDING PRACTICES* 18–19 (2006), available at <http://personal.anderson.ucla.edu/charles.corbett/papers/>

large percentage of contractors believe that the financial benefits of building green add up to less than five percent of operating costs.⁴⁹ These inaccurate perceptions are “clearly an obstacle to the diffusion of green building practices.”⁵⁰ The next Part explains how biases in the real estate industry reinforce these perception gaps, and argues that the policy tools currently used by local governments are insufficient to overcome these gaps on their own.

II

POLICY ANALYSIS AND IMPACT FEE PROPOSAL

Given the social and private benefits involved, governments have strong reasons to help stimulate the expansion of green building. They could do so in several ways. Most obviously, governments could require that all new buildings achieve a certain level of greenness.⁵¹ Governments can also encourage green building through less restrictive methods, including increased taxes on energy use, subsidies, cap-and-trade schemes for energy use, information provision, and labeling.⁵²

This Part first examines the policy options currently used by local governments to encourage green building. It evaluates programs in order of how burdensome they are on developers, from least to most burdensome. Next it considers as-yet unimplemented tax or fee pro-

diffusion_green_building.pdf; see also *supra* notes 28–32 and accompanying text (estimating costs of new green building projects to be zero to ten percent more than conventional buildings).

⁴⁹ CRYER ET AL., *supra* note 48, at 17.

⁵⁰ *Id.* at 19.

⁵¹ ORG. FOR ECON. CO-OPERATION & DEV., ENVIRONMENTALLY SUSTAINABLE BUILDINGS: CHALLENGES AND POLICIES 60–61 (2003) [hereinafter OECD REPORT] (discussing “[m]andatory standards” as method of achieving green building goals). Many local governments set minimum baselines for energy and water efficiency through building codes. See David Listokin & David B. Hattis, *Building Codes and Housing*, CITYSCAPE, 2005, No. 1, at 21, 23 (describing basic purposes of building codes, including energy and plumbing codes). Boulder, Colorado is a prime example of a city that aggressively requires high-performance building across the board, through guidelines that operate similarly to the LEED standards. See BOULDER, COLO., REV. CODE § 10-5.5-2(y)(2) (1981), available at <http://www.colocode.com/boulder2/chapter10-5-5.htm> (requiring “[r]esidential building permit applicants . . . to earn Green Points according to . . . schedule”). The city council of Washington, D.C., recently approved an ordinance requiring that every new private commercial development with more than 50,000 square feet of space be LEED certified by 2012. Nikita Stewart, *D.C. Moves To Become Pioneer in Forcing ‘Green’ Construction*, WASH. POST, Nov. 16, 2006, at A1.

⁵² See OECD REPORT, *supra* note 51, at 60 (listing possible economic incentives for green building). One example of an information-providing label is ENERGY STAR, a federal labeling program for appliances and building materials. See ENERGY STAR, About ENERGY STAR, http://www.energystar.gov/index.cfm?c=about.ab_index (last visited Feb. 28, 2008) (describing ENERGY STAR program).

grams in a similar order.⁵³ It concludes that taxes or fees best combine effectiveness and efficiency. Finally, this Part claims that because local governments have limited power to impose general land use taxes, impact fees are their best available option to stimulate green building.

A. *Inadequacies of Current Policy Options*

This Section considers the weaknesses of the various policy options currently used by local governments. It argues that subsidies and information provision programs are ineffective at actually stimulating green building and that requirements are too burdensome and inefficient to be desirable.

1. *Ineffectiveness of Information Provision and Subsidies*

Although many local governments have strict requirements for their own development projects, most do not impose “sticks” on private firms that fail to build green, opting instead to subsidize green building or to provide information to developers. These voluntary programs have not significantly increased the adoption of green building techniques; the structure of the private real estate market might help explain why.⁵⁴ As risk-averse developers often dismiss information not based on actual business experience, information about the cost-effectiveness of green building has generally been unconvincing to them.⁵⁵ Subsidy programs, for their part, have not been funded well enough to persuade developers to build green.⁵⁶

Many local governments, as well as the USGBC, have attempted to provide information about green building to the private sector.⁵⁷

⁵³ It makes sense to consider the policy options in this order because if less burdensome (and thus most politically attractive) options are effective, the policy analysis should end with those options.

⁵⁴ This Section relies heavily on research that takes the position that the real estate industry is notably slow to adopt new technology. See LOREN LUTZENHISER ET AL., MARKET STRUCTURE AND ENERGY EFFICIENCY: THE CASE OF NEW COMMERCIAL BUILDINGS 23 (2001) (emphasizing “conservative and ‘anti-innovation’ tendencies” of real estate industry). Lutzenhiser et al. use in-depth qualitative interview methods, backed by sociological literature on organizational structure and behavior, to test their claims about the conservative nature of the real estate market. *Id.* at 5–7. Most of their arguments are supported by industry insiders. See, e.g., *id.* at 25–26 (quoting “property developer” at length).

⁵⁵ See *id.* at ix (explaining that industry favors “models that have worked well in the past” over “new ideas”).

⁵⁶ See *infra* notes 69–71 and accompanying text.

⁵⁷ The real estate industry described here includes the developers and the banks that provide financing for the development process. Typically, “[t]he developer is at the center of the building process.” LUTZENHISER ET AL., *supra* note 54, at 11. Developers task architects and engineers with designing buildings that provide the highest possible revenue

These efforts have three goals: (1) to raise awareness of green building, (2) to reduce the costs of building green by providing best practices or case studies that can be used as models, and (3) to convince private developers to build green by demonstrating the financial benefits of doing so.⁵⁸ The last purpose is the most relevant, as it targets the many private developers who are concerned only with their bottom lines and are not otherwise committed to the environmental advantages of building green.⁵⁹ These programs distribute evidence demonstrating that green buildings make economic sense. Their credibility is sometimes hurt, however, by claims that there is no additional cost to building green.⁶⁰

Even when credible, these programs still fall victim to the biases of private development firms that favor designing and building in ways that are extremely predictable and reliable.⁶¹ Research indicates that developers typically rely on designs that have worked well in the past,⁶² and proposing a new type of project is a “huge burden” if it is “not in line with . . . history.”⁶³ The industry is insular and localized; developers trust personal relationships for information and rely on repeat interactions for predictable outcomes in the development process.⁶⁴ This reliance on past experience and personal contacts limits

at the lowest possible cost. *Id.* at 12. Lenders have an important amount of influence in the process because most real estate development projects are extremely dependent on debt financing. *Id.* at 28.

⁵⁸ See, e.g., CITY OF SEATTLE SUSTAINABLE BLDG. PROGRAM, 5-YEAR REPORT: BUILDING A BETTER CITY 13 (2005), available at http://www.cityofseattle.net/dpd/stellent/groups/pan/@pan/@sustainablebldg/documents/web_informational/dpds_007594.pdf [hereinafter SEATTLE REPORT] (describing city’s “Built Green” marketing plan and tool kit—designed to help developers “sell the benefits of green building”—and Green Building Communications Campaign, which is designed to “increase awareness” of green building and to “support the City’s economic development strategy”).

⁵⁹ Cf. CRYER ET AL., *supra* note 48, at 17–19 (suggesting that developers’ and contractors’ mistaken perceptions of costs of green building pose major obstacles to increased green development).

⁶⁰ See Schendler & Udall, *supra* note 8 (“The myth that going green costs nothing is damaging to clients who discover the reality deep in the process.”).

⁶¹ See LUTZENHISER ET AL., *supra* note 54, at 23–24 (discussing industry’s “‘anti-innovation’ tendencies” and aversion to unfamiliar practices).

⁶² *Id.* at 30. Lenders and developers are “very reluctant to invest in projects that do not fall inside the lines of what has been ‘profit generating’ before, seeing new, untested, and novel additions as adding uncertainty, rather than value, to a proposed development.” *Id.*

⁶³ *Id.* at 32 (ellipsis in original) (quoting “property developer”).

⁶⁴ *Id.* at 36. Lutzenhiser et al. describe this phenomenon in greater detail:

For example, banks give better rates to those they have successfully worked with in the past. Developers tend to use the same banks and contract specialists for the same reasons (lower rates and already existent working relationships). And designers, contractors, and subcontractors, while called into projects based on their expertise, are often referred and then chosen based on the social ties they share and the accompanying “trustworthiness” that this

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the utility of information provided by local governments. In addition, the dependence on repeat interactions and the large amount of capital needed to operate limit the ability of new firms to enter the market.⁶⁵ As a result, new or innovative firms struggle to compete against more established and more conservative firms.

Although the behavior of existing firms is not necessarily irrational, it does demonstrate a severe risk aversion that limits the ability of the industry to assimilate new information. Developers see their product as a conservative investment and “go to great lengths to avoid and diminish the uncertainties involved with buying, selling, and developing properties.”⁶⁶ This suggests that future benefits are worth much less to developers when compared to upfront costs. Additionally, one of the major drawbacks of green building—at least for inexperienced green builders—is the potential for construction delays inherent in any novel building design; such delays are particularly expensive when a developer aims to pay back as much of her financing as soon as possible.⁶⁷ All of this demonstrates that information provision, on its own, is unlikely to convince many developers to adopt green building techniques.

Proactive municipalities and states have gone beyond information provision by implementing subsidy programs for green building. They hope that payments will tilt the financial analysis for conservative developers, causing them to adopt green building techniques more rapidly. Such programs often provide tax credits or grants to builders upon the completion of buildings that reach a certain level of greenness, whether determined by the LEED standards or by separate, state-designed programs based on LEED.⁶⁸

These subsidy programs have not been particularly effective primarily because they have not been well funded. The programs often contain low total monetary caps that can easily be reached by one large development, and funding caps for individual projects are also

brings. One of the important roles that social ties play is that they reduce uncertainties, in a risk-averse industry, by providing interpersonal and inter- and intra-firm interactions with predictability and stability.

Id.

⁶⁵ See *id.* at 30–31 (describing how decisions to grant initial financing are highly dependent upon developer showing past success with building type).

⁶⁶ *Id.* at 33. Real estate development tends to attract risk-averse investors because it is thought to provide steady and predictable income. *Id.* at 32.

⁶⁷ See *supra* notes 33–37 and accompanying text for a discussion of the costs of delays as well as other soft costs of building green.

⁶⁸ See King & King, *supra* note 3, at 397 (discussing incentive programs used by some states).

common.⁶⁹ As a result, few large-scale commercial developers can actually recoup a significant portion of their upfront costs through subsidies. Moreover, some subsidy schemes are limited to specific aspects of the green building process. For example, even the programs in Seattle and Portland—the two cities that have led the way in encouraging green building—only fund certification costs, not the additional costs of designing and building green.⁷⁰ This lack of funding should not be surprising, however, given that many municipalities and states face chronic budget deficits.⁷¹ When the costs of breaking with past behavior are substantial, as they are in the real estate industry, effective subsidies have to be significantly larger than is possible using current funding mechanisms.

Aside from being ineffective, subsidies are also inefficient. In particular, they are subject to a “free rider” effect, wherein a substantial amount of any subsidy is likely to go to individuals who would

⁶⁹ Subsidies for individual projects come in two distinct forms. (1) A number of states—such as Oregon, Maryland, Massachusetts, and New York—have enacted tax credit programs for green buildings as a whole. ELIZABETH BROWN ET AL., AM. COUNCIL FOR AN ENERGY-EFFICIENT ECON., TAX CREDITS FOR ENERGY EFFICIENCY AND GREEN BUILDINGS: OPPORTUNITIES FOR STATE ACTION 14 (2002), available at <http://www.aceee.org/pubs/e021full.pdf>. All of these programs involve caps on the total amount of credits available and/or the maximum size of any individual credit. *Id.* at 18. Some states—Idaho, Hawaii, Arizona, and New Jersey—have made tax credits available for environmentally friendly activities such as cogeneration or weatherizing, but they have not chosen to subsidize green buildings as a whole; of course, these less ambitious programs also have caps. *Id.* at 9–11, 29.

(2) Many cities and states provide direct grants for green building. King & King, *supra* note 3, at 423 (“Although none exist at the federal level, many state and local governments offer [direct grant] subsidies for sustainable construction.”); see also Database of State Incentives for Renewables & Efficiency, <http://www.dsireusa.org> (last visited Feb. 27, 2008) (listing state, local, and federal incentive programs for energy-efficient development). Seattle, Washington, and Portland, Oregon, have led the way in providing direct subsidies (and also lead the way among cities nationally in LEED-registered projects). See King & King, *supra* note 3, at 423–24. Yet, the programs in both of these cities remain limited. See King & King, *supra* note 3, at 423–25 (describing Seattle subsidy program, which has per-project caps); City of Portland, Green Investment Fund, <http://www.portlandonline.com/osd/index.cfm?c=42134> (last visited Feb. 27, 2008) (describing Portland subsidy program, which has overall and per-project caps).

⁷⁰ See King & King, *supra* note 3, at 424 (explaining that Seattle’s subsidy program is limited to money spent on “soft” costs of obtaining LEED certification); City of Portland, *supra* note 69 (“The primary intent of [Portland’s green building subsidy] is to support early building and site-related project activities that examine the potential and identify the means to realize an exemplary, comprehensive green building project. [Green Investment Fund] grants are secondarily intended to help offset the incremental hard costs of the green building . . .”).

⁷¹ See OECD REPORT, *supra* note 51, at 66 (“[I]ntroducing subsidy programmes inevitably requires tax revenues, and in a time of fiscal constraints on public spending this raises questions about the feasibility of subsidies that would have to be sizeable enough to have the desired effect.”).

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have done whatever the subsidy is designed to encourage even in the absence of the subsidy.⁷² If this effect is substantial, and if the goal of the government is to change behavior rather than to transfer wealth—as it generally is in the green building context—then subsidies will necessarily be wasteful. Several studies indicate that, in the case of subsidies for energy efficiency, substantial free riding occurs, to the point where as many as eighty-eight percent of those receiving funding “would have made the same expenditures without the [subsidies].”⁷³ Not only is this an inefficient use of government resources, it also points to the ineffectiveness of subsidies in general: If eighty-eight percent of those receiving a subsidy would have undertaken the subsidized activity voluntarily, then only twelve percent of the subsidy’s recipients actually changed their behavior as a result of the subsidy. For these reasons, a local government that wants to encourage green building may have to turn away from “carrots” (such as subsidies or information provision) and toward “sticks” (such as a requirement, tax, or fee) to accomplish its goals.

2. *Inflexibility and Inefficiency of Requirements*

If subsidies and information provision are unlikely to significantly change the current view of green building for most private developers, an outright greenness requirement on all new construction may be appealing as a simple way of forcing the practice on as large a number of new projects as possible.⁷⁴ Such a requirement could potentially be enacted through zoning codes, building codes, or state-level guidelines.⁷⁵ A requirement would have the advantage of forcing every developer to build as green as each jurisdiction desires. Developers

⁷² *Id.* Although the “free rider” problem usually refers to those who take advantage of socially beneficial goods without sharing in their costs, the concept is equally applicable to those who take advantage of a subsidy program without actually changing their behavior.

⁷³ *Id.* at 67.

⁷⁴ Policy “sticks” designed to encourage green building might be criticized on the grounds that, as green buildings provide positive externalities to society, government should reward the use of green buildings rather than punish those who do not build green. But many of the benefits of green buildings come in the form of reductions in negative externalities; for example, green buildings reduce pollution, which is a classic negative externality. See Hardin, *supra* note 25, at 1245 (conceptualizing pollution as “a reverse . . . tragedy of the commons”). More importantly, defining a benefit as a positive externality as opposed to a reduction of a negative externality is more a matter of baseline property rights than a question of policy. See R. H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 2 (1960) (arguing that externalities are “reciprocal” in nature and that they are created by rival uses of resources by multiple parties). Like Coase, I hope to resolve externalities in the most efficient way possible.

⁷⁵ For example, Boulder, Colorado, has implemented a green building requirement through the city building code. BOULDER, COLO., REV. CODE § 10-5.5-2(y) (1981), available at <http://www.colocode.com/boulder2/chapter10-5-5.htm>.

would rapidly adopt green building principles, and if the proponents of green building are correct, the market would quickly learn the benefits—financial and social—of building green.⁷⁶

Despite the clear effectiveness of building requirements, however, an abundance of literature suggests that such requirements have negative effects on development.⁷⁷ A greenness requirement does not allow any flexibility in the actions that developers may take to comply with it, and it does not account for the variation in costs among different builders.⁷⁸ Inflexibility is a problem because it prevents developers from spending resources devoted to green building in the most effective way possible. For example, to comply with a requirement, a builder might spend resources trying to reach a certain level of energy efficiency when those same resources could be more effectively spent on water efficiency. Also, a requirement only induces developers to reduce the impact of their buildings to the point of the requirement, rather than to the point of cost-effectiveness, which will vary from developer to developer.

Additionally, requirements—especially in building codes—tend to be extremely difficult to revise.⁷⁹ The building code in New York City, for example, was only recently revised and updated for the first time since the 1960s in a process that generated tremendous opposition from powerful interest groups that benefited from the old building code.⁸⁰ This difficulty is especially problematic for requirements in disciplines with rapidly changing technology. Within a few years, green building technology will be significantly less expensive, making higher levels of efficiency more easily achievable for developers. A requirement based on the best available technology today will be unable to force developers to reach these levels of efficiency.

⁷⁶ See OECD REPORT, *supra* note 51, at 61 (“A regulatory approach to the design of buildings can be seen as the most dependable way to achieve a given goal of energy efficiency; and the effectiveness of regulatory instruments is hardly affected by market barriers.”).

⁷⁷ See, e.g., Listokin & Hattis, *supra* note 51, at 21–22 (discussing literature on negative impact of building codes on housing production and affordability).

⁷⁸ Cf. Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law*, 37 STAN. L. REV. 1333, 1334–37 (1985) (criticizing Best Available Technology Standards under Clean Air Act and Clean Water Act for imposing unnecessary costs on industry and for impeding innovation).

⁷⁹ See OECD REPORT, *supra* note 51, at 61 (suggesting that standards are difficult to change because of stakeholders’ opposition and abundance of administrative red tape). A government could solve this problem by delegating responsibility for standard setting to LEED or another independent certifying authority, but governments may be uncomfortable giving away their authority.

⁸⁰ See David W. Chen, *Partisans Sound Off at Hearing on Competing Building Codes*, N.Y. TIMES, Dec. 1, 2004, at B2 (describing vitriolic hearing on New York City building code revision proposals).

Lastly, all land use regulatory sticks raise the cost of construction and can reduce the supply of buildings and, when applied to a housing market, can significantly reduce the availability of affordable housing. Although requirements, taxes, and fees all do this, a well-designed Pigouvian tax or fee will only discourage the construction of buildings that, all things considered, are socially undesirable.⁸¹ This advantage of taxes and fees will be discussed further in Part II.B.

B. Policy Advantages of Taxes and Impact Fees

Although all the policy options currently in use appear inadequate, there are alternatives available to local governments hoping to promote green building, namely, taxes and impact fees.⁸² Taxes and fees offer a number of advantages over subsidies and strict requirements that address many of the shortcomings of these other approaches.

Taxes and fees are especially attractive when compared to subsidies. First, they do not draw from the scarce financial resources of local governments. Instead, they actually contribute to those resources. In addition, taxes or fees, if truly Pigouvian, are much more efficient than subsidies. Pigouvian taxes or fees impose on private actors the full social costs of their activities.⁸³ They are designed to fully internalize externalities by making private actors pay for the full consequences of their actions. A common example is a tax on pollution: If every unit of air pollution produced by a factory causes ten dollars of harm to society, a perfectly Pigouvian tax would force the factory to pay ten dollars for every unit of pollution it produced.

A potential beneficial side effect of a Pigouvian tax is revenue generation for the state with a smaller deadweight economic loss.⁸⁴

⁸¹ See *infra* notes 83–91 and accompanying text (discussing Pigouvian taxes and fees).

⁸² This Note does not consider marketable permit schemes. Under such schemes, governments impose caps on the total amount of impacts they will allow in certain impact areas. WILLIAM J. BAUMOL & WALLACE E. OATES, *THE THEORY OF ENVIRONMENTAL POLICY* 177 (2d ed. Cambridge Univ. Press 1988) (1975). Developers can then sell impact permits to one another in an open market. *Id.* In the context of green building, the market for such permits is unlikely to be sufficiently robust to make the program work, as it is unlikely that there would be a sufficient number of buildings, within a single jurisdiction, at similar stages of development, to make significant permit trading feasible.

⁸³ See A.C. PIGOU, *THE ECONOMICS OF WELFARE* 192 (4th ed. 1932) (describing divergence in private and social costs as externality and suggesting tax as “[t]he most obvious” way for states to “remove the divergence”).

⁸⁴ See Mireille Chiroleu-Assouline & Mouez Fodha, *Double Dividend Hypothesis, Golden Rule and Welfare Distribution*, 51 J. ENVTL. ECON. & MGMT. 323, 323 (2006) (“One of the advantages of the environmental tax is that it provides public revenue which can be recycled. This is the reason why it is often preferred to subsidies or emission quotas.”). Although there is substantial debate in the literature on the size of this effect, under the right conditions, this effect does occur. See *id.* at 323–24 (discussing debate in

Deadweight losses result from the distortions taxes impose on the incentives of buyers and sellers in the market.⁸⁵ By increasing the price of a good, a tax causes the amount of that good that producers can sell—and thus, the amount that they will produce—to drop below the level where it would have been absent the tax. This lost output is usually undesirable.⁸⁶ In theory, a Pigouvian tax does not create a similar deadweight loss; any loss of output caused by the tax is desirable because, once externalities have been accounted for, that output costs more to society than it was worth.⁸⁷ In contrast, conventional subsidies draw funding from tax sources that do create deadweight losses.⁸⁸ In this way, a Pigouvian tax or fee can actually result in less market distortion than a subsidy funded with general tax revenue. Moreover, in the case of green building, money raised from taxes imposed on nongreen development can be used to fund subsidies for other green buildings, potentially increasing the effectiveness of subsidy programs without distorting other parts of the economy.

Finally, taxes and fees avoid the free rider problem that attaches to subsidies because they need only be paid by people who actually fail to build green, regardless of whether those people would have built green in the absence of the tax or fee. Thus, no money—which would typically be raised through general distortionary taxes—is wasted on efforts that do not change behavior.

Taxes and fees also have advantages over strict requirements. Although any tax, fee, or requirement will discourage some building, a Pigouvian tax or fee will only discourage building that imposes costs on society that are greater than the benefits provided to the developer—in other words, building that, when fully priced, society does not want.⁸⁹ The same cannot be said for a requirement, which will discourage some efficient construction from being built.⁹⁰

literature on “double dividend” effect of reducing externalities and increasing revenue without deadweight loss, and showing that such effect can occur).

⁸⁵ DAVID C. COLANDER, *MICROECONOMICS* 160 & fig.7-3 (5th ed. 2004).

⁸⁶ *Id.*

⁸⁷ See PIGOU, *supra* note 83, at 134–35 (explaining that Pigouvian taxes must account for typically “uncompensated” externalities, and thus, that they cover social costs of targeted activities). Indeed, this is a major goal of a Pigouvian tax—to reduce output to an efficient level.

⁸⁸ *Cf.* Chiroleu-Assouline & Fodha, *supra* note 84, at 323 (describing environmental taxes as preferable to subsidies because they remove distortion).

⁸⁹ See *supra* note 87 and accompanying text. Moreover, given the financial savings produced by green buildings in the long run, any up-front costs can actually be recouped by the buildings themselves.

⁹⁰ Requirements will discourage efficient construction by developers for whom the perceived increased costs of building green are greater than the profits the developer can make from the building, which in turn are greater than the social benefits of building green—in other words, buildings that are efficient even once externalities are considered

Another advantage of taxes and fees over requirements stems from the flexibility of the former. Unlike requirements, taxes and fees encourage developers to build green as long as it is cost-effective for them to do so, regardless of the level of greenness they have already achieved. Because different developers have different cost structures, and because these cost structures change as new technology emerges, this flexibility is a significant benefit.⁹¹

C. *Why Impact Fees Instead of Taxes?*

Having concluded that a tax or a fee is the best choice for a local government interested in encouraging green building, a key question remains: What are the kinds of taxes or fees a local government can impose? There appear to be two broad policy choices—(1) taxes on resource consumption or (2) taxes or impact fees on nongreen land development.

Taxes and impact fees on nongreen development would work by directly influencing the choices of developers. A resource consumption tax, on the other hand, would work indirectly by forcing developers and consumers to fully internalize the social costs of resource consumption; this full internalization, in turn, would lead them to demand green buildings and also to reduce their resource consumption once they were inside the buildings.⁹² A tax or fee on development would not have this second effect; although it would improve the energy efficiency of individual buildings, it would not necessarily change the behavior of individuals using the buildings.

Yet a resource tax will still run into many of the biases of the real estate industry described above.⁹³ Under an energy tax regime, for example, developers who build green might expect to realize higher rents at some time in the future. Nevertheless, because developers do not value future income very highly relative to present profit,⁹⁴ they will be unlikely to actually initiate new green building projects. As a

but that will be too costly to be built green. With a Pigouvian tax or fee set at the appropriate level, such developers will pay their taxes or fees and build these socially beneficial nongreen buildings. With a requirement, however, these developers will not undertake these projects, even though benefits—in the form of the developer's profits—would be greater than total social costs (including building costs and externalities). Because the cost of building green will vary from developer to developer, it is impossible to set a requirement at a level that consistently ensures that all efficient buildings will be built.

⁹¹ See OECD REPORT, *supra* note 51, at 73 (“Energy taxes . . . provide continuous incentives to seek more cost-effective technologies.”).

⁹² See *id.* at 72–73 (discussing ability of energy taxes to increase demand for environmentally friendly products and buildings).

⁹³ See *supra* notes 54–67 and accompanying text.

⁹⁴ See OECD REPORT, *supra* note 51, at 73–74 (“[I]nvestors tend to be [overly] concerned with initial costs relative to operating costs.”).

result, an indirect tax on resource consumption will be less effective than a tax or fee imposed on development, which can circumvent these aspects of the real estate market. For this reason, a direct tax or fee on nongreen development will best combine efficiency and effectiveness in stimulating a shift to green building.

Both taxes and fees on nongreen development will change the behavior of developers in similar ways. Many local governments, however, may only be able to implement impact fees. To explain why impact fees have this advantage, and why such advantage is important, it is first necessary to provide some background on impact fees.

Impact fees are a type of exaction—that is, a cost that local governments impose on developers as a condition for the approval of land use development. In issuing exactions, governments waive background land use regulations—such as zoning requirements—in exchange for something the government wants.⁹⁵ Historically, exactions were first used by governments to acquire physical rights to land, typically in areas near proposed developments as part of deals that were negotiated on a case-by-case basis.⁹⁶ They later progressed into legislatively imposed impact fees that required monetary payments used to fund roads, water and sewer systems, schools, parks, and other public facilities throughout a municipality.⁹⁷ Impact fees have become popular among local governments looking to fund infrastructure improvements: They are more flexible than physical exactions, less expensive than borrowing money, and much more palatable than raising property taxes.⁹⁸ Recently, localities have implemented “linkages”—programs that condition zoning approvals on the provision of services or facilities that a new development will replace or require (often affordable housing).⁹⁹ The widespread use of linkages demonstrates that exactions have grown from simple revenue-raising mechanisms into a tool for local governments to accomplish broader social policy goals.

⁹⁵ Vicki Been, *Impact Fees and Housing Affordability*, CITYSCAPE, 2005, No. 1, at 139, 140. Local governments may create extremely restrictive land use regimes in order to force landowners and developers to provide public benefits. See Jerold S. Kayden, *Zoning for Dollars: New Rules for an Old Game? Comments on the Municipal Art Society and Nollan Cases*, 39 WASH. U. J. URB. & CONTEMP. L. 3, 5–8 (1991) (describing and defending trend of municipalities using incentive zoning to fund various community needs and amenities).

⁹⁶ Been, *supra* note 95, at 140.

⁹⁷ *Id.*

⁹⁸ See *id.* at 141 n.1 (discussing rising popularity of impact fees and similar mechanisms worldwide).

⁹⁹ *Id.* at 140–41.

Because the general police power resides in the states, local governments can only exercise authority (including land use authority) that is explicitly delegated to them.¹⁰⁰ Most states have delegated the power to zone—that is, the power to proscribe specific uses of land—to local governments, but few have granted them the power to tax land use development.¹⁰¹ Exactions, and thus impact fees, derive from the zoning power and can therefore be imposed by local governments without specific state authorization. Indeed, despite the fact that “states have not conferred broad authority on localities to tax development,”¹⁰² courts have upheld impact fees as legitimate exercises of local land use authority.¹⁰³

This jurisprudence represents a major advantage of the impact fee: It is the policy instrument closest to a land use tax that is widely available to local governments. Importantly, local governments have formulated much of the green building policy that exists today, and it is reasonable to believe they will continue to do so.¹⁰⁴ Many local

¹⁰⁰ ALAN A. ALTSHULER ET AL., REGULATION FOR REVENUE: THE POLITICAL ECONOMY OF LAND USE EXACTIONS 49, 51 (1993).

¹⁰¹ *Id.* at 49. Exceptions to this rule include some “home rule” states, where state legislatures have delegated more general powers to local governments. *See id.* at 51 (“Where localities have ventured beyond the land use regulatory powers explicitly conferred by state acts . . . they have normally relied on general grants of police power under state acts establishing local home rule.”).

¹⁰² *Id.* at 49.

¹⁰³ *See, e.g.,* Bloom v. City of Fort Collins, 784 P.2d 304, 308–09 (Colo. 1989) (finding that transportation fee imposed for “the purpose of defraying the cost of a particular governmental service” was legitimate and not property tax); Lafferty v. Payson City, 642 P.2d 376, 378 (Utah 1982) (finding impact fee that was “reasonable charge for a specific service” to be permissible and not illegal tax); Contractors & Builders Ass’n v. City of Dunedin, 329 So. 2d 314, 318 (Fla. 1976) (finding sewer and water connection fees imposed on development to be regulatory impact fees, not unauthorized taxes). The inquiries in the case law cited above follow the general legal distinction between impact fees and taxes: “A tax can be used for any purpose; no connection, in principle, need exist between the source of revenue and the purposes for which it is used.” ALTSHULER ET AL., *supra* note 100, at 51. The purpose of impact fees, on the other hand, “must be to finance service capacity for future occupants or to alleviate negative project impacts on the wider community.” *Id.*

¹⁰⁴ Seattle and Portland have featured prominently in this Note’s discussion of existing green building programs. Many other cities, however—including those with considerably less environmentally friendly reputations—have promoted green building aggressively. Prominent examples include Las Vegas and Phoenix, two of the fastest growing urban areas in the country and two areas hardly known for their progressive politics. *See* CITY OF PHOENIX, PHOENIX ENVIRONMENTAL SUSTAINABILITY PROGRAM SUMMARY: ENERGY AND GREEN BUILDINGS 1–2 (2007), available at <http://phoenix.gov/sustainability/energy.pdf> (describing green building programs in Phoenix); *Las Vegas Models Its Green Program on NAHB Guidelines*, NATION’S BUILDING NEWS, Oct. 23, 2006, <http://www.nbnnews.com/NBN/issues/2006-10-23/Green+Building/index.html> (describing Las Vegas’s Southern Nevada Green Building Partnership, designed to certify and provide incentives for developers who build green); *see also* CITY OF LAS VEGAS PLANNING & DEV. DEP’T, GREEN BUILDING PROGRAM 1–4 (2006), available at <http://www.lasvegas>

governments preside over communities that are more committed to environmental protection than their surrounding state. Some are located in states with dysfunctional state governments unlikely to lead the way on major policy initiatives, such as New York;¹⁰⁵ others are in states where property taxes are limited by state constitutions, as in California,¹⁰⁶ or by laws passed through statewide initiatives or referenda, as in Washington.¹⁰⁷ Moreover, some of these municipalities have sought to position themselves as uniquely green—perhaps as a way of attracting a young, educated workforce—and are likely to go to great lengths to maintain this green edge.¹⁰⁸ Lastly, even if cities are no more committed to promoting green building than their states, impact fees are useful as a way to allow diverse policy experiments at multiple levels of government.

nevada.gov/files/Green_Building_Program_Brochure.pdf (describing Las Vegas green building ordinance); Lance Kirk, *The Value of Green*, LAS VEGAS BUS. PRESS, Nov. 14, 2005, at 20, available at <http://www.lvbusinesspress.com/articles/2005/11/15/news/news09.txt> (discussing plans to achieve LEED certification for massive CityCenter Project on Las Vegas Strip).

¹⁰⁵ See Al Baker, *Albany Passes Budget on Time; A First Since '84*, N.Y. TIMES, Apr. 1, 2005, at A1 (describing hope that timely budget passage by New York State legislature would end “two decades of governmental dysfunction that had paralyzed local governments year after year and had made state legislators a national laughingstock”); Danny Hakim & Jennifer Medina, *The 229th Legislative Session: A Blend of Accomplishment and Dysfunction*, N.Y. TIMES, July 16, 2006, at 26 (“If the 229th session of the New York State Legislature did little to dispel the notion that Albany is the nation’s capital of governmental dysfunction, at least New Jersey’s brief shutdown gave Empire State legislators some competition this year.”).

¹⁰⁶ CAL. CONST. art. XIII, § 1(a).

¹⁰⁷ See Lisa Stiffler & Neil Modie, *After I-747: Less Cake, with No Icing*, SEATTLE POST-INTELLIGENCER, Nov. 8, 2001, at A1 (describing effects of Washington’s Initiative 747, which capped property taxes statewide).

¹⁰⁸ See Ron Scherer, *In Emissions Battle, U.S. Cities Vie To Be ‘Greenest’; More than 300 Mayors Pledge To Reduce Greenhouse Gases*, CHRISTIAN SCI. MONITOR (Boston), Oct. 25, 2006, at 1 (describing race among nation’s cities “to lead the nation in reducing greenhouse gases”). The mayors of Chicago and New York have each expressed publicly the goal of making their respective cities the greenest in the country. *Id.* In many cities, the race to be green has been supported by glossy advertising materials. See, e.g., DAVID HSU, DESIGN TRUST FOR PUBLIC SPACE, SUSTAINABLE NEW YORK CITY 8, 10, 15 (2006), available at http://www.nyc.gov/html/oec/downloads/pdf/sustainable_nyc_final.pdf (describing sustainability practices in New York City and arguing that New York “is positioned to take a leadership role among cities in pursuing sustainability”); SEATTLE REPORT, *supra* note 58, at 3 (touting Seattle’s green building program and advertising that “Seattle now ranks number one in the nation for LEED projects and professional expertise”); *New Green Building Policy Strengthens Portland’s Commitment to Sustainable Development*, GREEN CITY (Office of Sustainable Dev., Portland, Or.), June 2005 <http://www.portlandonline.com/shared/cfm/image.cfm?id=112547> (quoting Portland Green Building Manager, Rob Bennett, as stating that Portland “now ha[s] the most LEED-registered projects in the country” and arguing that new green building policy “will ensure Portland continues to pace the country as a green building leader”).

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D. Impact Fee Proposals

This Section introduces two possible impact fee schemes designed to stimulate green building. Under the first proposal, which I will refer to as the “LEED Indexing Proposal,” fees could be imposed on new development projects based on the level of LEED certification achieved. Buildings with no LEED certification would pay the highest fees; LEED Certified buildings would pay less, Silver would pay even less, and so on. Higher certification levels, such as Gold or Platinum buildings, could be subsidized with the revenue generated by the rest of the program. This proposal is appealing because of its administrative efficiency: It uses the existing LEED process, and it does not require empirical modeling of impacts.

In the second proposal, which I will refer to as the “Resource Use Proposal,” local governments could impose fees on development projects according to the projects’ projected uses of energy, water, transportation, and sewage systems. Every new building would pay for its anticipated use of a specific resource. Modeling programs currently used by LEED could create resource projections, such that a developer would not have to duplicate modeling for both the municipality and LEED. The LEED process itself, however, would be irrelevant to the fee imposed on the development. Using LEED modeling tools, a resource-use projection would be constructed for the entire predicted life of the building.¹⁰⁹ The price of different resources would be set in different ways. For water, the fee price would be equivalent to the actual cost to the government of providing water; for energy or road use, the price could be the cost at which pollution is traded in permit markets; for sewer use, it might be the cost of effluent fees imposed by other levels of government. In all cases, the fees charged to developers would correspond to the costs associated with the anticipated resource use of new developments. Of course, there is some arbitrariness in setting would-be Pigouvian fees for unpriced externalities, but, using the methods above, local governments would not be without guidance or precedent in this endeavor. Any revenues generated by the fees in question could be spent on subsidies, such that very energy-efficient buildings could be rewarded for their high levels of environmental friendliness. In theory, a baseline level of greenness could be set to make the program revenue-neutral; all buildings below the baseline would pay fees, and all above it would receive subsidies.

¹⁰⁹ To reduce modeling costs, there could be standard baseline prices for resource use per square foot of new buildings. Additional modeling would only become necessary for buildings hoping to be particularly efficient.

III

LEGALITY OF THE IMPACT FEE PROPOSALS

Although impact fees may be an effective and efficient policy tool to encourage green building, they are subject to legal constraints unique among the policy choices discussed above. First, they must meet the traditional substantive due process test that asks whether government actions are rationally related to legitimate goals.¹¹⁰ In addition, impact fees may be subject to constraints imposed by the Supreme Court under the Takings Clause of the Fifth Amendment of the U.S. Constitution.¹¹¹ Under these constraints, impact fees must satisfy two requirements: the “essential nexus” test announced in *Nollan v. California Coastal Commission*¹¹² and the “rough proportionality” test elaborated in *Dolan v. City of Tigard*.¹¹³ Finally, impact fees are subject to the “dual rational nexus” test applied by state courts, which generally overlaps with the requirements of the Federal Constitution under *Nollan* and *Dolan*.¹¹⁴ As this Part will discuss, the legality of the two impact fee proposals under these tests may differ in some key respects; ultimately, it is more likely that the Resource Use Proposal will survive a legal challenge. This Part explains the relevant legal limitations and then applies them to the two impact fee proposals.¹¹⁵

A. Constitutional Limits on Exactions and Impact Fees

This Section describes the potential legal constraints that may apply to impact fee plans designed to encourage green building. It considers limits inherent in the Federal Constitution, discusses whether these limits are applicable, and then examines state limits that, in many ways, duplicate their federal counterparts.

1. Federal Constitutional Limitations on Exactions

The first federal constitutional challenge to which impact fees may be subject is a traditional substantive due process inquiry. Such a challenge, however, is extremely unlikely to succeed because courts tend to grant significant deference to local legislative determinations

¹¹⁰ See *infra* notes 116–18 and accompanying text.

¹¹¹ See *infra* notes 119–32 and accompanying text.

¹¹² 483 U.S. 825, 836–37 (1987).

¹¹³ 512 U.S. 374, 391 (1994).

¹¹⁴ See *infra* notes 139–44 and accompanying text.

¹¹⁵ One potential legal challenge that this Note does not tackle is that posed by rules in some states that commit the regulation of energy to specific agencies, rather than to local governments. In such places, the Resource Use Proposal would likely not be workable. Because this Note has a nationwide focus, however, this situation is beyond its scope.

that land use regulations further public purposes. Recent Supreme Court precedent holds that government conduct must be so irrational as to be “egregious or arbitrary” to be struck down.¹¹⁶ Lower federal courts have followed this test by setting a variety of high bars for challengers.¹¹⁷ Some state courts are more aggressive in policing local government action, but few will invalidate a local land use regulation if it is general in scope and reasonably related to the public welfare.¹¹⁸

Relying on the Takings Clause of the Fifth Amendment, the U.S. Supreme Court has developed doctrines that specifically control local governments’ use of exactions; these provide a much more substantial hurdle for impact fees than does substantive due process.¹¹⁹ The Supreme Court’s first major statement on exactions came in *Nollan v. California Coastal Commission*.¹²⁰ In the case, the California Coastal Commission conditioned the grant of a building permit to the Nollans on their dedication of a public easement across part of their property that ran adjacent to a public beach.¹²¹ The Court struck down this condition, holding that for an exaction to satisfy the Takings Clause,

¹¹⁶ *City of Cuyahoga Falls v. Buckeye Cmty. Hope Found.*, 538 U.S. 188, 198 (2003).

¹¹⁷ *See, e.g.*, *George Washington Univ. v. District of Columbia*, 318 F.3d 203, 209 (D.C. Cir. 2003) (requiring “grave unfairness” in order to strike down land use regulation under substantive due process doctrine); *United Artists Theatre Circuit, Inc. v. Twp. of Warrington*, 316 F.3d 392, 399–400 (3d Cir. 2003) (finding only land use regulation that “shocks the conscience” to be irrational); *Bowers v. City of Flint*, 325 F.3d 758, 763 (6th Cir. 2003) (same); *Baker v. Coxe*, 230 F.3d 470, 474 (1st Cir. 2000) (same); *Chesterfield Dev. Corp. v. City of Chesterfield*, 963 F.2d 1102, 1104–05 (8th Cir. 1992) (requiring action to be “truly irrational,” such as “apply[ing] a zoning ordinance only to persons whose names begin with a letter in the first half of the alphabet,” in order to strike down land use regulation (internal quotation marks omitted) (citation omitted)); *Coniston Corp. v. Vill. of Hoffman Estates*, 844 F.2d 461, 468 (7th Cir. 1988) (“At worst, the decision here was mistaken and protectionist; it was not irrational . . .”).

¹¹⁸ *See, e.g.*, *Twigg v. County of Will*, 627 N.E.2d 742, 745–46 (Ill. App. Ct. 1994) (finding application of local zoning ordinance to plaintiff irrational, as nearby property was being used in similar manner to plaintiff’s desired use of land). The courts of Illinois, however, are unique in their activist stance toward local land use regulation; most other state courts act with considerably more deference to local governments. *See* Fred P. Bosselman, *The Commodification of ‘Nature’s Metropolis’: The Historical Context of Illinois’ Unique Zoning Standards*, 12 N. ILL. U. L. REV. 527, 528 (1992) (describing “repeated application” of rigorous judicial standards as “a unique feature of Illinois zoning law not found in other states”). Other state courts show the same kind of deference demonstrated by the federal courts of appeal. *See, e.g.*, *Cormier v. County of San Luis Obispo*, 207 Cal. Rptr. 880, 885–86 (Cal. Ct. App. 1984) (affirming trial court’s application of “the restricted scope of its authority” in upholding local zoning ordinance).

¹¹⁹ The Takings Clause states: “[N]or shall private property be taken for public use, without just compensation.” U.S. CONST. amend. V. The Court has held that the Fourteenth Amendment incorporates the Takings Clause against the states. *Chi., Burlington & Quincy R.R. v. City of Chicago*, 166 U.S. 226, 241 (1897); *see also Nollan v. Cal. Coastal Comm’n*, 483 U.S. 825, 835 n.4 (1987) (referring to “incorporated Takings Clause”).

¹²⁰ 483 U.S. at 825.

¹²¹ *Id.* at 827–28.

an “essential nexus” must exist between the terms of the condition and the purpose claimed by the government for the underlying land use regulation.¹²² Without this nexus, the exaction would be a taking of private property without just compensation.¹²³ The Court found that no nexus existed between the Commission’s claimed purpose—preventing the creation of a wall of buildings that kept the public from accessing the beach—and the easement, which was a strip of land only usable by those already on the beach.¹²⁴

The Court followed *Nollan* with *Dolan v. City of Tigard*.¹²⁵ In *Dolan*, a city conditioned a store owner’s request for a building permit, which would have paved part of a flood plain and caused increased traffic congestion, on the dedication of a public greenway and the establishment of a bicycle path.¹²⁶ Despite finding sufficient evidence of a nexus,¹²⁷ the Court struck down the conditions, explaining that the city had not shown that there was “rough proportionality” between the impacts of the proposed development and the burdensome public greenway and bike path conditions.¹²⁸

After *Nollan* and *Dolan*, courts must undertake a three-part federal constitutional inquiry to test the legitimacy of an exaction.¹²⁹ First, a court must decide whether the state’s rationale for imposing the condition in question furthers a legitimate governmental purpose under the traditional substantive due process test.¹³⁰ Second, the

¹²² *Id.* at 837.

¹²³ *Id.*

¹²⁴ *Id.* at 828–29.

¹²⁵ *Dolan v. City of Tigard*, 512 U.S. 374 (1994).

¹²⁶ *Id.* at 379–80.

¹²⁷ *Id.* at 387–88.

¹²⁸ *Id.* at 391, 394–95. The Court stated that “[n]o precise mathematical calculation is required, but the city must make some sort of individualized determination that the required dedication is related both in nature and extent to the impact of the proposed development.” *Id.* at 391.

¹²⁹ This entire inquiry assumes that the court has found, as it did in *Nollan* and *Dolan*, that the relevant condition would constitute a taking on its own were it not for its connection to a building permit. *See id.* at 384 (“Without question, had the city simply required petitioner to dedicate a strip of land . . . for public use, rather than conditioning the grant of her permit to redevelop her property on such a dedication, a taking would have occurred.”); *Nollan*, 483 U.S. at 831 (“Had California simply required the Nollans to make an easement across their beachfront available to the public on a permanent basis . . . rather than conditioning their permit to rebuild their house on their agreeing to do so, we have no doubt there would have been a taking.”).

¹³⁰ *See Nollan*, 483 U.S. at 834–35 (describing possible legitimate purposes of permit condition and assuming, without deciding, that these were valid). The Court in *Dolan* did not elaborate on the requirements of substantive due process in the area of exactions, briefly stating that “the prevention of flooding . . . and the reduction of traffic congestion . . . qualify as the type[s] of legitimate public purposes we have upheld.” *Dolan*, 512 U.S. at 387.

court must determine whether there is an essential nexus between this purpose and the terms of the condition in question.¹³¹ Third, the court must consider whether the condition's burden is roughly proportional to the impact of the development.¹³² If the condition fails any of these three tests, it will constitute a taking, and the government must pay any affected landowner just compensation.

2. *Applicability of Nollan and Dolan to Legislated Impact Fees*

There is uncertainty about the applicability of *Nollan* and *Dolan* to legislatively imposed impact fees. First, there is some question as to whether these cases, which involved physical restrictions imposed on developers, also apply to monetary impact fees. Some lower courts have held that because fees do not involve the onerous burden of a physical taking, they are not subject to such a high level of scrutiny.¹³³ In contrast, other courts have concluded that *Nollan* and *Dolan* do

The substantive due process inquiry is an unsettled part of the constitutional analysis of exactions. *Nollan* and *Dolan*, in their descriptions of the public purposes at stake, both cited *Agins v. City of Tiburon*, 447 U.S. 255 (1980), for the proposition that a “land use regulation does not effect a taking if it ‘substantially advance[s] legitimate state interests’ and does not ‘den[y] an owner economically viable use of his land.’” *Dolan*, 512 U.S. at 385 (alterations in original) (quoting *Agins*, 447 U.S. at 260); *Nollan*, 483 U.S. at 834 (same). *Agins* was a Takings Clause case that applied the kind of means-ends analysis usually associated with substantive due process—i.e., the Court asked, does the action in question substantially advance a legitimate state interest?—as part of the takings analysis. *Agins*, 447 U.S. at 260–61. *Agins* was superseded, however, by *Lingle v. Chevron U.S.A. Inc.*, 544 U.S. 528 (2005), in which the Court held that the Takings Clause does not duplicate substantive due process by requiring this type of means-ends analysis. *Id.* at 540. The holding in *Lingle* was specifically described as “not . . . disturb[ing]” to *Nollan* and *Dolan*, despite the reliance of the latter two cases on means-ends forms of analysis. *Id.* at 548. Nevertheless, because of the references in *Nollan* and *Dolan* to *Agins*, there may be some question as to whether and how the substantive due process inquiry applies to exactions post-*Lingle*. *Dolan*, 512 U.S. at 384–85; *Nollan*, 483 U.S. at 834.

This Note will assume that *Lingle* did nothing to the requirements of substantive due process. A proper reading of the case shows that it merely removed the “substantially advances” analysis from the Takings inquiry and returned it to its proper home in the substantive due process context. See *Lingle*, 544 U.S. at 540 (“There is no question that the ‘substantially advances’ formula was derived from due process, not takings, precedents.”). Post-*Lingle*, it is essential to keep these two analyses separate.

¹³¹ *Nollan*, 483 U.S. at 837.

¹³² *Dolan*, 512 U.S. at 391.

¹³³ See, e.g., *Home Builders Ass’n of Cent. Ariz. v. City of Scottsdale*, 930 P.2d 993, 1000 (Ariz. 1997) (distinguishing *Dolan* on ground that “Mrs. Dolan [was required to] cede a part of her property to the city, a particularly invasive form of land regulation that the court believed justified increased judicial protection for the landowner. . . . Here, Scottsdale seeks to impose a fee, a considerably more benign form of regulation”); *Krupp v. Breckenridge Sanitation Dist.*, 19 P.3d 687, 697 (Colo. 2001) (“Because *Nollan*, *Dolan*, and their progeny applied heightened scrutiny only where the government demanded real property as a condition of development, we find that they are not applicable to a general development fee.”).

apply to monetary impact fees and, consequently, that local governments must use the resulting revenues in a way that bears an essential nexus to the impacts in question.¹³⁴ Second, as *Nollan* and *Dolan* involved “adjudicative” exactions negotiated on a case-by-case basis, lower courts have split as to whether the cases control legislated exactions that apply across the board.¹³⁵ Such nondiscretionary impact fees, which are the norm today, must be approved by the legislatures of local governments and apply broadly to various classes of development. Many courts have held that *Nollan* and *Dolan* are inapplicable to fees imposed by universal legislation;¹³⁶ others have held that the legislative-judicial distinction is not relevant to the exactions analysis.¹³⁷ The resolution to these questions is unsettled, though those

¹³⁴ See, e.g., *Ehrlich v. City of Culver City*, 911 P.2d 429, 447–48 (Cal. 1996) (applying *Nollan* and *Dolan* to impact fee imposed by planning commission and finding essential nexus); *Home Builders Ass’n of Dayton & Miami Valley v. City of Beavercreek*, 729 N.E.2d 349, 355 (Ohio 2000) (applying *Nollan* and *Dolan* to impact fee because “[a]lthough impact fees do not threaten property rights to the same degree as land use exactions or zoning laws, there are similarities”). The *Ehrlich* court explained the applicable test, finding a clear example of an essential nexus: “Nor is there any genuine dispute that the . . . fee, which the city has committed to the purchase of additional recreational facilities, will *substantially advance* its legitimate interest in correcting a demonstrated deficiency in municipal recreational resources.” 911 P.2d at 448 (emphasis added). Under this test, a court should strike down, for example, an impact fee assessed for increased impervious surface coverage when the money raised from the fee is used to fund local schools.

¹³⁵ See Inna Reznik, Note, *The Distinction Between Legislative and Adjudicative Decisions in Dolan v. City of Tigard*, 75 N.Y.U. L. REV. 242, 252–57 (2000) (discussing split in decisions).

¹³⁶ See, e.g., *City of Scottsdale*, 930 P.2d at 1000 (finding *Dolan* inapplicable to “legislative” as opposed to “adjudicative” impact fees); *San Remo Hotel L.P. v. City & County of San Francisco*, 41 P.3d 87, 103–05 (Cal. 2002) (finding *Nollan* and *Dolan* inapplicable to non-discretionary exactions); *Parking Ass’n of Ga. v. City of Atlanta*, 450 S.E.2d 200, 203 n.3 (Ga. 1994) (finding *Dolan* inapplicable to “legislative determination[s]”), *cert. denied*, 515 U.S. 1116 (1995); *Rogers Mach., Inc. v. Washington County*, 45 P.3d 966, 982 (Or. Ct. App. 2002) (finding *Nollan* and *Dolan* inapplicable to nondiscretionary impact fees). In a dissent from a denial of certiorari, Justice Thomas noted that this issue deserved resolution. *Parking Ass’n*, 515 U.S. at 1117–18 (Thomas, J., dissenting).

¹³⁷ See, e.g., *Amoco Oil Co. v. Village of Schaumburg*, 661 N.E.2d 380, 390–91 (Ill. App. Ct. 1995) (declining to adopt legislative-adjudicative distinction and applying *Dolan* to legislative impact fee); *Curtis v. Town of South Thomaston*, 708 A.2d 657, 660 (Me. 1998) (stating that “the legislative nature of the exaction is but one factor in our takings analysis” under *Dolan*); *J.C. Reeves Corp. v. Clackamas County*, 887 P.2d 360, 365 (Or. Ct. App. 1994) (finding “‘the character of the [condition] remains the type that is subject to the analysis in *Dolan*,’ whether it is legislatively required or a case-specific formulation” (alteration in original)); *Town of Flower Mound v. Stafford Estates L.P.*, 135 S.W.3d 620, 641 (Tex. 2004) (applying *Dolan* to legislative impact fee scheme and considering possibility that “government could ‘gang up’ on particular groups to force extractions that a majority of constituents would not only tolerate but applaud, so long as burdens they would otherwise bear were shifted to others”).

who claim that *Nollan* and *Dolan* do not apply to legislatively imposed monetary impact fees may have the better argument.¹³⁸

3. State Constitutional Limitations on Impact Fees

Even if *Nollan* and *Dolan* do not apply to legislative impact fees, state constitutions place their own restrictions on such schemes. State courts police impact fees using rules that are mostly coextensive to those in *Nollan* and *Dolan*,¹³⁹ even if their legal bases are different.¹⁴⁰

¹³⁸ There are three reasons this might be the case. First, Fifth Amendment jurisprudence tells us that government impositions on land are uniquely burdensome. *See United States v. Sperry Corp.*, 493 U.S. 52, 62 n.9 (1989) (holding that, because “money is fungible,” fees are not akin to physical takings). *But see Webb’s Fabulous Pharmacies, Inc. v. Beckwith*, 449 U.S. 155, 164 (1980) (applying Takings Clause to appropriation of interest on funds deposited in court registry). Second, *Nollan* expressed particular concern for the extortionate nature of individualized exactions, reciting an oft-repeated maxim about takings jurisprudence: “One of the principal purposes of the Takings Clause is ‘to bar Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole.’” *Nollan v. Cal. Coastal Comm’n*, 483 U.S. 825, 835 n.4 (1987) (quoting *Armstrong v. United States*, 364 U.S. 40, 49 (1960)). Third, *Dolan* itself explicitly distinguished earlier cases that deferred to legislative judgments regarding development: “The sort of land use regulations discussed in the cases . . . involved essentially legislative determinations classifying entire areas of the city, whereas here the city made an adjudicative decision to condition petitioner’s application for a building permit on an individual parcel.” *Dolan v. City of Tigard*, 512 U.S. 374, 385 (1994); *see also Reznik, supra* note 135, at 251 (characterizing *Dolan* as explicitly limited to adjudicative determinations).

Despite these strong arguments, Justice Thomas, joined by Justice O’Connor, dissented from a denial of certiorari to resolve this specific issue and indicated a belief that *Nollan* and *Dolan* do apply to legislative judgments:

It is not clear why the existence of a taking should turn on the type of governmental entity responsible for the taking. A city council can take property just as well as a planning commission can. Moreover, the general applicability of the ordinance should not be relevant in a takings analysis. . . . The distinction between sweeping legislative takings and particularized administrative takings appears to be a distinction without a constitutional difference.

Parking Ass’n, 515 U.S. at 1117–18 (Thomas, J., dissenting).

¹³⁹ Prior to the announcement of *Nollan*’s “essential nexus” test, many state courts employed a “rational nexus” test. *See* Steven B. Schwanke, *Local Governments and Impact Fees: Public Need, Property Rights, and Judicial Standards*, 4 J. LAND USE & ENVTL. L. 215, 234–39 (1989) (describing evolution of rational nexus test). In fact, *Nollan* derived the essential nexus test from state decisions using rational nexus analysis. *See Nollan*, 483 U.S. at 839–40 (listing state decisions in agreement with Court’s ruling under essential nexus test). Moreover, *Dolan* derived the “rough proportionality” test from the “reasonable relationship” standard used by state courts. *Dolan*, 512 U.S. at 391; *see also City of Scottsdale*, 930 P.2d at 999 (“‘Roughly proportional’ is actually a term substituted for ‘reasonable relationship’ to avoid confusion with ‘rational basis’ as a standard of scrutiny.”); *City of Beavercreek*, 729 N.E.2d at 354–55 (characterizing “dual rational nexus” state test as based on *Nollan* and *Dolan*). Many commentators have noted this similarity. *See, e.g.,* ALTSHULER ET AL., *supra* note 100, at 53 (describing *Nollan*’s standard as “close nexus” test derived from state rational nexus tests); Mark W. Cordes, *Legal Limits on Development Exactions: Responding to Nollan and Dolan*, 15 N. ILL. U. L. REV. 513,

The most common state court test requires a “rational nexus” between the underlying land use regulation and the impact fee.¹⁴¹ First, a fee must be proportional to the actual impact of the development in question.¹⁴² Second, the fee must be dedicated to the mitigation of the precise impact for which it was assessed.¹⁴³ These two requirements are essentially identical to those imposed by *Dolan* and *Nollan*, respectively. As a result, this Note will assume that, even if *Nollan* and *Dolan* themselves are inapplicable, any impact fee scheme will eventually be subject to their constraints under similar state law tests.¹⁴⁴

514–15 (1995) (noting that Court in *Dolan* “suggested it was following what it identified as the middle position” among state tests for proportionality).

¹⁴⁰ The rational nexus test draws on state law provisions differentiating between taxes and fees, with the aim of preventing “double-bill[ing].” ALTSHULER ET AL., *supra* note 100, at 52. *Nollan* and *Dolan*, of course, are grounded in the Federal Takings Clause. *Dolan*, 512 U.S. at 383–84; *Nollan*, 483 U.S. at 829, 831, 834.

¹⁴¹ ALTSHULER ET AL., *supra* note 100, at 51–52.

¹⁴² See, e.g., *City of Scottsdale*, 930 P.2d at 999 (finding developer “had the burden of showing that [the City’s] fee bore no reasonable relationship to the public burden created by the proposed development”); *St. Johns County v. Ne. Fla. Builders Ass’n*, 583 So. 2d 635, 637 (Fla. 1991) (“[T]he local government must demonstrate a reasonable connection, or rational nexus, between the need for additional capital facilities and the growth in population generated by the subdivision.” (quoting *Hollywood, Inc. v. Broward County*, 431 So. 2d 606, 611 (Fla. Dist. Ct. App. 1983))); *Brazer v. Borough of Mountainside*, 262 A.2d 857, 862 (N.J. 1970) (“[A] subdivider may be compelled only to assume a cost ‘which bears a rational nexus to the needs created by, and benefits conferred upon, the subdivision.’” (quoting *Longridge Builders, Inc. v. Planning Bd.*, 245 A.2d 336, 337 (N.J. 1968))).

¹⁴³ See, e.g., *St. Johns County*, 583 So. 2d at 637 (“[T]he government must show a reasonable connection, or rational nexus, between the expenditures of the funds collected and the benefits accruing to the subdivision. In order to satisfy this latter requirement, the ordinance must specifically earmark the funds collected for use in acquiring capital facilities to benefit the new residents.”); *City of Beavercreek*, 729 N.E.2d at 354–55 (“The dual rational nexus test requires a court to determine . . . whether there is a reasonable connection between the expenditure of the funds collected through the imposition of an impact fee, and the benefits accruing to the subdivision.”).

¹⁴⁴ Not all states have always applied the rational nexus test to impact fees. California, before *Nollan*, applied the flexible reasonable relationship test, which imposed a much less stringent requirement on local governments. ALTSHULER ET AL., *supra* note 100, at 52; see also *Associated Home Builders of Greater E. Bay v. City of Walnut Creek*, 484 P.2d 606, 615–16 (Cal. 1971) (announcing “reasonable relationship test”). Several other states—including New York and Montana—also applied deferential tests before *Nollan* and *Dolan*. See Cordes, *supra* note 139, at 523–24 (summarizing decisions). Under these tests, the impact fee proposals would likely be subject to minimal scrutiny.

Illinois currently applies the “specifically and uniquely attributable” test, which sets a higher bar than that imposed by any other state in requiring “a conclusive, precise showing that the public need to be served is 100 percent attributable to the development in question.” ALTSHULER ET AL., *supra* note 100, at 52; see also *Pioneer Trust & Sav. Bank v. Village of Mount Prospect*, 176 N.E.2d 799, 802 (Ill. 1961) (announcing specifically and uniquely attributable test). Massachusetts also employs a relatively stringent test. See *Emerson Coll. v. City of Boston*, 462 N.E.2d 1098, 1105–06 (Mass. 1984) (“Fees are legitimate to the extent that the services for which they are imposed are sufficiently particular-

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B. Application of Legal Standards to the Impact Fee Proposals

This Section will apply the requirements of substantive due process, the nexus test, and the proportionality test to the impact fee proposals offered in Part II.

1. Substantive Due Process¹⁴⁵

Substantive due process challenges to both of the impact fee proposals discussed in this Note are highly unlikely to succeed. Courts have consistently found that impact fees for sewer, water, and road use serve legitimate public purposes;¹⁴⁶ they have therefore approved such fees except where barred by state impact fee enabling acts.¹⁴⁷ Additionally, the legality of energy impact fees has not been tested. However, this should not present a problem. Local governments have long been involved in the regulation of energy use. In fact, the widespread regulation of energy use through building codes has not been struck down as illegitimate under substantive due process.¹⁴⁸

A challenge to an energy use impact fee under a substantive due process framework would have to contend with the numerous public welfare benefits offered by such fees. These include reduced local air pollution, reduced peak power usage (resulting in fewer blackouts), reduced heat island effects, and improved indoor air environments.¹⁴⁹ There is a direct relationship between the reasons why a municipality might want to limit energy use and many of the goals that courts have held to constitute legitimate ends of the zoning power. Indeed, the

ized as to justify distribution of the costs among a limited group . . .”). Neither of these tests would likely permit the kind of impact fee proposals offered in this Note.

¹⁴⁵ In addition to federal substantive due process rules, states also have their own substantive due process tests for land use regulation that would need to be met regardless of the applicability of *Nollan* and *Dolan*. See *supra* note 118 and accompanying text.

¹⁴⁶ E.g., *Bloom v. City of Fort Collins*, 784 P.2d 304, 309 (Colo. 1989) (upholding transportation impact fee); *Contractors & Builders Ass'n v. City of Dunedin*, 329 So. 2d 314, 319–20 (Fla. 1976) (upholding sewer and water connection fees); see also CLANCY MULLEN, DUNCAN ASSOCS., NATIONAL IMPACT FEE SURVEY: 2007 (2007), available at <http://impactfees.com/2006survey.pdf> (listing impact fees by type in localities across country and showing that many municipalities assess sewer, water, and road fees); *Been, supra* note 95, at 141 (describing widespread use of sewer, water, and road impact fees).

¹⁴⁷ As of 2005, twenty-seven states had adopted impact fee enabling acts. CLANCY MULLEN, DUNCAN ASSOCS., STATE IMPACT FEE ENABLING ACTS 1 (2006), available at <http://impactfees.com/publications%20pdf/summary%20of%20state%20acts.pdf>. Nevertheless, impact fees existed before these enabling acts, and the statutes mostly codify pre-existing judicial rules, albeit with occasional added restraints. ALTSHULER ET AL., *supra* note 100, at 54. As of 2005, every state enabling act permitted the assessment of impact fees for roads, and every state act but four (Illinois, Pennsylvania, Virginia, and Washington) permitted fees for sewer and water connections. MULLEN, *supra*, at 2.

¹⁴⁸ See *supra* note 51 (discussing regulation of energy and water use through building and plumbing codes).

¹⁴⁹ See *supra* notes 24–25 and accompanying text for a discussion of these benefits.

Court in *Village of Euclid v. Ambler Realty Co.*¹⁵⁰—the landmark Supreme Court case that originally upheld the constitutionality of zoning—was extremely concerned with the health effects of dense development, focusing especially on air quality and sunlight.¹⁵¹ This suggests that a court would consider that an energy efficiency requirement designed to prevent localized air pollution and increased heat serves a legitimate public purpose. As such, the use of impact fees in either proposal should easily pass the substantive due process test.

2. *Nexus Requirement*

To meet either the rational nexus or the essential nexus standard, the public purpose promoted by the impact fees—limiting the use of resources—must be connected to whatever the local government purchases with the proceeds from the fee program. In practice, impact fees usually satisfy this requirement by funding the infrastructure needed to provide the services for which the fees were imposed. For example, a transportation impact fee is acceptable if the money it generates is used for building roads. Both impact fee proposals in this Note would use funds to subsidize other green buildings.

In assessing whether such fees would meet either nexus standard, there are two important points to consider. First, buildings should only be subsidized when they reduce resource use in the same impact area targeted by the subsidizing fees. In other words, local governments must be careful to separate each of the impact fees into a different account based on the type of impact at stake; subsidies should then be paid out to buildings that reduce the same impact associated with each individual account. For example, impact fees for energy use should not subsidize reductions in water use, or vice versa.

This requirement may prove problematic for the LEED Indexing Proposal because it offers subsidies to green buildings regardless of their actual resource efficiency. As explained above, some buildings can achieve LEED certification without any energy improvements above those required by building codes.¹⁵² Subsidizing these buildings with revenue from energy impact fees, as the LEED Indexing Proposal would do, likely fails the essential nexus test. In contrast, the

¹⁵⁰ 272 U.S. 365 (1926).

¹⁵¹ See *id.* at 394–95 (describing how larger buildings “interfer[e] by their height and bulk with the free circulation of air and monopoliz[e] the rays of the sun which otherwise would fall upon the smaller homes”).

¹⁵² See *supra* note 10 and accompanying text. This problem might be mitigated by revisions to the LEED standards, which, by setting baseline requirements in different areas, could reduce the “low-hanging fruit” problem.

Resource Use Proposal naturally lends itself to this requirement, as its entire purpose is to tie fees to the projected use of specific resources.

To achieve compliance under the LEED Indexing Proposal, a local government could maintain separate accounts for LEED points in particular categories—for example, energy and water use—and could separately subsidize buildings that also achieve LEED points in these same areas. This change, however, would raise the administrative cost of the LEED Indexing Proposal beyond the cost of the LEED process itself, thus reducing some of the proposal's appeal.

The second important point with respect to the nexus requirements is that, for some types of impacts, most costs are fixed regardless of the marginal impact of a given development. For example, major sewer pipes are often built before the surrounding buildings to which they will connect. Thus, green buildings that reduce overall water use may not actually reduce the cost of providing water and sewer services to the area in question. Although this problem is relevant to both proposals, it is not likely to be an issue in urban areas where the fixed costs of infrastructure have already been incurred and where impact fees will fund mostly the variable costs imposed by the use of that infrastructure. Moreover, the problem is not an issue for energy impact fees, as the major impacts of energy use—notably, air pollution and power-grid strain—are likely to be felt across an entire region.

3. *Proportionality Requirement*

In the context of impact fees, the *Dolan* proportionality test first calls for a comparison of two factors: (1) the impact of a development on the surrounding community and (2) the burden imposed by the fee. In other words, fees must fluctuate proportionately to the estimated scope of impacts. Although *Dolan* does not require mathematical precision,¹⁵³ a plan that is precise will be insulated from attack. Precision is also demanded by the desire, from a policy perspective, to set fees at Pigouvian levels.

The two impact fee proposals presented in this Note will fare differently under this test. The Resource Use Proposal is specifically designed to be proportionate in this way; as a result, it will likely pass the test. The LEED Indexing Proposal, on the other hand, will be less likely to survive such a challenge. Although a local government might be able to set fee levels on nongreen development to correspond to general improvements in efficiency, as LEED does, these fees should not magically disappear when buildings reach specific ratings (e.g.,

¹⁵³ *Dolan v. City of Tigard*, 512 U.S. 374, 395–96 (1994).

LEED Silver). This sort of all-or-nothing approach may be too blunt to meet the requirements of proportionality.

Another potential problem for both proposals is pricing. For the Resource Use Proposal, it may be difficult to determine how much of a burden on a community is created by, for example, increased energy use; such a calculation requires valuing externalities that do not have clear market prices, a move that courts may struggle to make. There is nothing in *Dolan* to suggest, however, that courts should not account for general social costs as part of the proportionality analysis simply because these costs are difficult to measure precisely. In fact, the impacts in *Nollan* and *Dolan* at least partially involved costs derived from restrictions on unpriced, general social benefits.¹⁵⁴ Additionally, over time, by massaging the relative levels of fees and subsidies, local governments should be able to demonstrate a direct relationship between impact fees and impact mitigation. For example, if developer *A* increases energy use by a certain amount, she should be required to pay however much it costs for developer *B* to reduce energy use by the same amount. In this way, the Resource Use Proposal should overcome the difficulty of pricing.

The LEED Indexing Proposal, for its part, may run into trouble on the issue of pricing. Significantly, it does not attempt to directly tie the fees imposed to any concrete measures of impact; any price on LEED certification is likely to be completely arbitrary. As a result, the proposal may fail the proportionality test on these grounds as well.

CONCLUSION

The choice to encourage green building should be an easy one for many municipalities. Green buildings serve to reduce dramatically both the social costs of the built environment and the private costs of a building's users. Such buildings, however, require initial upfront expenditures beyond those needed for traditional forms of construction, and as such, they involve additional risks for developers. As the private real estate industry is extremely wary of design practices untested by personal experience, it has been slow to adopt green building practices.

Some local governments have enthusiastically attempted to push the private sector, but so far they have done so only in gentle ways, by

¹⁵⁴ In *Nollan*, the crucial impact of the development in question was a predicted decrease in beach use by the general public, something that is very difficult to price. *Nollan v. Cal. Coastal Comm'n*, 483 U.S. 825, 835 (1987). In *Dolan*, some of the relevant impacts involved stream flooding and traffic congestion, both of which generally result in unpriced externalities even though they might also generate real dollar costs for a municipality (e.g., cleanup costs or the costs of building new roads). *Dolan*, 512 U.S. at 387.

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using information provision and subsidies. These policies have generally failed to result in significant changes in building practices. In order to overcome the barriers to green building inherent in the private real estate market, local governments must implement more dramatic measures to push developers to adopt green building techniques. Impact fees provide one way for local governments to implement such measures without first gaining approval from often skeptical state governments. If designed appropriately, such fees should be both maximally efficient and effective in encouraging a shift in building practices. They should also survive challenges under federal and state constitutional doctrines governing exactions.

Ideally, these impact fees would be only temporary measures. Given the private benefits of building green, the fees would force developers to experiment with new technologies. Over time, and with more familiarity and expertise among developers, the costs of building green—both actual and perceived—should decrease dramatically. Once this occurs, the barriers to the adoption of new technology by the real estate industry will fade away, green building will become the status quo, and these policies could be reconsidered. Theoretically, the externalities mitigated by green building should still be priced with taxes or fees, but once the real estate industry has integrated the relevant technological advances and the advantages of green building have become well known—and thus “priced” automatically—such taxes or fees will be most efficiently targeted directly toward individual consumers. Until then, any policy choice must focus on the internal structure of the real estate market and must attempt to overcome this structure in as direct a way as possible.