

ENERGY EXACTIONS

Jim Rossi† & Christopher Serkint†

Exactions are demands levied on residential or commercial developers to force them, rather than a municipality, to bear the costs of new infrastructure. Local governments commonly use them to address the burdens that growth places on schools, transportation, water, and sewers. But exactions almost never address energy needs, even though local land use decisions can create significant externalities for the power grid and for energy resources.

This Article proposes a novel reform to land use and energy law: “energy exactions”—understood as local fees or timing limits aimed at addressing the energy impacts of new residential or commercial development. Energy exactions would force individual developers to internalize the costs of growth on the energy grid, generate important information about community energy needs and their externalities, decentralize risk-taking, promote technological change in new sources of power supply, and stimulate useful forms of regulatory competition between local communities and state utility regulators. In the process, they would induce greater energy conservation as new residential and commercial buildings are approved for development.

This Article defends the implementation of energy exactions by local governments. It then analyzes the potential legal hurdles energy exactions face, including their authorization, preemption by state utility laws, and implications under the Takings Clause of the U.S. Constitution. Energy exactions provide local governments a unique, pragmatic, and valuable tool to integrate community values into energy grid planning, promote demand reduction, and enable new investments in low-carbon energy infrastructure.

† Judge D.L. Lansden Chair and Associate Dean for Research, Vanderbilt University Law School.

†† Professor and Associate Dean for Academic Affairs, Vanderbilt University Law School. The authors are grateful for feedback from participants in workshops at Florida State University, Northwestern University, and Vanderbilt University law schools, and give a special thank you to William Boyd, Lincoln Davies, Dan Farber, Lynne Kiesling, Carl Kitchens, Felix Mormann, Ricky Revesz, David Spence, Shelley Welton, and Hannah Wiseman for their insightful comments on earlier drafts.

INTRODUCTION 644

I. THE EXISTING LANDSCAPE 653

 A. Land Use Exactions 654

 B. Traditional Energy Planning 659

 1. *Top-Down Energy Resource Capacity Planning* 660

 2. *Customer Savings as an Energy Resource* 663

II. EXACTIONS AS A NEW POINT OF ENTRY FOR ENERGY PLANNING 669

 A. The Mechanics of Energy Exactions 669

 B. Informational Benefits for Regulators and Markets 676

 C. Risk Diversification and Regulatory Competition 683

 D. The Local Case for Energy Exactions 685

III. LEGAL OBSTACLES TO ENERGY EXACTIONS 690

 A. State Authorization 690

 B. Intrastate Preemption 692

 C. Takings and Unconstitutional Conditions 702

CONCLUSION 712

INTRODUCTION

New residential and commercial developments generate a mix of benefits and burdens for municipalities. The benefits of development typically include an expanded tax base, new housing options, and economic growth more generally. But new development can create costs as well, in the form of congestion and burdens on infrastructure. For example, schools, water systems, sewers, roads and public transportation can become overburdened and may need to be expanded or extended to meet increased demand.

Taxpayers are often asked to pay for new infrastructure associated with growth, but an alternative solution is to force developers to internalize more of the costs of each new project. Many local governments use cost-shifting tools such as pre-specified impact fees, concurrency requirements, and negotiated deals to force developers to pay for—or provide—new infrastructure to offset those burdens. Examples include school-expansions transportation improvements and the creation of new public spaces, to name just a few.¹ Collectively, these

¹ See JULIAN CONRAD JUERGENSMEYER & THOMAS E. ROBERTS, LAND USE PLANNING AND DEVELOPMENT REGULATION LAW 318–19 (3d ed. 2013) (discussing the ubiquitous use of impact fees by local governments “to generate revenue for capital funding necessitated by new development”); see also *Growth Management Planning—Con-*

tools are forms of “exactions”—demands levied on developers to force them, instead of the municipality, to pay for the burdens that their new projects impose.²

But it is commonplace for new residential and commercial projects to overlook an additional cost: the increased burden of growth on energy infrastructure. Where energy supply is adequate to meet new demand, and development does not impact power-distribution-grid reliability, the marginal impacts of new development seem minimal. But energy demand growth eventually requires new supply. Building energy supply resources—or securing additional energy contracts—is costly. Surprisingly, however, these kinds of system-wide customer energy impacts are rarely considered as appropriate bases for local government land-use exactions.³ They should be. Resi-

currency, 19 FLA. PRAC., FLORIDA REAL ESTATE § 17:35 (2018 ed.) (defining concurrency); Vicki Been, *Impact Fees and Housing Affordability*, 8 CITYSCAPE 139, 143 (2005) (“The main reason municipalities impose impact fees on development is, of course, to shift to the developer, the owner of the land converted to development, or the consumers of the housing or other land use the costs of the public infrastructure that the development requires.”); Mark Fenster, *Takings Formalism and Regulatory Formulas: Exactions and the Consequences of Clarity*, 92 CAL. L. REV. 609, 615 (2004) (describing “exactions requiring necessary infrastructure” as an “essential deal-making tool” for local land-use regulators); Robert H. Freilich & Neil M. Popowitz, *How Local Governments Can Resolve Koontz’s Prohibitions on Ad Hoc Land Use Restrictions*, 45 URB. LAW. 971, 983–84 (2013) (comparing concurrency requirements to other land-use tools); Jerold S. Kayden, *National Land-Use Planning in America: Something Whose Time Has Never Come*, 3 WASH. U. J.L. & POLY 445, 469 (2000) (labeling concurrency requirements one of the “key elements underlying typical state growth management laws”); Ronald H. Rosenberg, *The Changing Culture of American Land Use Regulation: Paying for Growth with Impact Fees*, 59 S.M.U. L. REV. 177, 206–10 (2006) (identifying reasons for the “growing” use of impact fees by local governments); Jennifer Evans-Cowley, *Development Exactions: Process and Planning Issues*, Lincoln Institute of Land Policy Working Paper, at *4–5 (2006), <http://www.impactfees.com/publications%20pdf/evans-cowley-planning.pdf> [<https://perma.cc/TM79-8ZVQ>] (describing forms of exactions including dedication, tap fees, fee-in-lieu, linkage fees and impact fees). See generally *Koontz v. St. Johns River Water Mgmt. Dist.*, 570 U.S. 595, 605 (2013) (“Insisting that landowners internalize the negative externalities of their conduct is a hallmark of responsible land-use policy, and we have long sustained such regulations against constitutional attack.”)

² See, e.g., Fenster, *supra* note 1, at 611 (“Exactions are the concessions local governments require of property owners as conditions for the issuance of the entitlements that enable the intensified use of real property.”).

³ Cf. Rosenberg, *supra* note 1, at 182 n.19 (listing public infrastructure costs as including “schools, sewer, storm drainage, roads, water service, parks and recreation and fire protection,” which notably excludes energy). In a provocative essay, Peter Byrne and Kathryn Zyla focus on the use of exactions to address carbon emissions. See J. Peter Byrne & Kathryn A. Zyla, *Climate Exactions*, 75 MD. L. REV. 758, 758 (2016). This is a more far-reaching exaction that would include, for example, vehicle miles traveled, building processes, food consumption, and so forth. See *id.* at 772. That breadth is interesting but also very difficult to quantify, making exactions for carbon legally problematic. Focusing

dential and commercial developers are uniquely positioned to address both the demand for and supply of energy, especially (though not exclusively) in growing communities. Forcing developers to internalize the costs they impose on energy infrastructure would encourage them to incorporate greater energy efficiency in their buildings *ex ante*. Recognizing local governments as central to discussions about future energy production and supply needs would produce valuable information for energy planning and cost allocation, better diversify risk-taking in new infrastructure investment, and create productive new forms of regulatory competition between local communities and state regulation of private utilities.⁴

This Article argues that energy exactions are normatively desirable, evaluates how they can help to improve both land use and energy regulation, and assesses the legal implications and limits of their use. As an operational matter, we are largely agnostic about how a municipality can best implement land use exactions. The appropriate approach will depend on the contours of state law as well as dynamics in local housing and property markets. Nevertheless, we detail two different forms of energy exactions by way of example: one that imposes pre-set prices on anticipated kilowatt energy demand and one that is more focused on how the timing of a development affects energy infrastructure (so-called “concurrency”).⁵ Both involve

exclusively on energy confines the legal analysis, while still creating a proposal that would have a significant if indirect impact on carbon emissions and climate change.

⁴ Though there is little discussion of energy regulation in the land-use literature, some place local governments at the front line in addressing climate change. See, e.g., Hari M. Osofsky, *Rethinking the Geography of Local Climate Action: Multilevel Network Participation in Metropolitan Regions*, 2015 UTAH L. REV. 173, 175 (“As international climate change negotiations continue to fail to solve this problem, a growing number of cities around the world play increasingly critical roles in multilevel efforts to address climate change.”); Heike Schroeder & Harriet Bulkeley, *Global Cities and the Governance of Climate Change: What is the Role of Law in Cities?*, 36 FORDHAM URB. L.J. 313, 314 (2009) (finding that cities play a major role in producing and managing carbon emissions); Patricia E. Salkin, *Can You Hear Me Up There?: Giving Voice to Local Communities Imperative for Achieving Sustainability*, 4 ENVTL. & ENERGY L. & POL’Y J. 256, 264 (2009) (“Local governments cannot and have not waited for the federal and state governments when it comes to sustainability. Climate change is no different. By the close of 2008, more than 900 mayors had signed onto the U.S. Conference of Mayors’ Climate Protection Agreement.”) (footnote omitted). For discussion of the potential of local land-use law in addressing water problems, see CRAIG ANTHONY (TONY) ARNOLD, WET GROWTH: SHOULD WATER LAW CONTROL LAND USE? 418–33 (2005).

⁵ See, e.g., Timothy S. Chapin, *Local Governments as Policy Entrepreneurs: Evaluating Florida’s “Concurrency Experiment,”* 42 URB. AFF. REV. 505, 507, 519–27 (2007) (describing a range of concurrency programs); Robert M. Rhodes, *Florida Growth Management: Past, Present, Future*, 9 FLA. COASTAL L. REV. 107,

a municipality charging developers for the impact of increased energy demand resulting from new development. Both also create an incentive for developers to include technologies and building approaches that will minimize energy needs.

Energy exactions are a natural extension of current land-use regulation, so the central intuition should be immediately familiar to anyone experienced with the development process.⁶ Just as many land-use approvals today require developers to mitigate the impact of a new residential or commercial project on roads or other infrastructure, energy exactions would require developers to bear the costs associated with increases in the demand for energy, or to demonstrate how they have mitigated them. Consider that many communities and new developments already make “net carbon zero” claims as a way of marketing growth projects.⁷ Our energy exaction proposal would require developers to back up these kinds of claims with enforceable commitments or else pay for any anticipated burden on energy infrastructure.⁸

Energy exactions would also improve energy law by filling a gap in the current approaches to utility planning. In effect, existing energy law encourages most local communities to “out-source” their energy supply decisions to private utilities.⁹

119 (2007) (criticizing concurrency as creating additional “roadblocks” to development).

⁶ For some of the literature describing land-use exactions, see *supra* note 1.

⁷ See, e.g., Frank Jossi, *Three Minnesota Sites Plan Future Net Zero Neighborhoods*, ENERGY NEWS NETWORK (Aug. 25, 2016), <https://energynews.us/2016/08/25/midwest/three-minnesota-sites-plan-future-net-zero-neighborhoods/> [<https://perma.cc/S9DH-6NH3>] (describing three new development sites in Minnesota that anticipate a net-zero future); *Net-Zero in Canada*, 28 ENERGY DESIGN UPDATE No. 9, at 7 (outlining plans for “net-zero-energy” developments and demonstration houses); YourHub.com & Austin Briggs, *Geos Development Neighborhood in Arvada Claims Net-Zero Sustainability*, DENVER POST (Sept. 30, 2014, 8:15 AM), <http://www.denverpost.com/2014/09/30/geos-development-neighborhood-in-arvada-claims-net-zero-sustainability/> [<https://perma.cc/UU3J-WBYG>] (describing the Geos Community, which will be the largest net-zero community in North America).

⁸ Developers and local governments could also commoditize these impacts in ways that recognize their low-carbon attributes, potentially even trading them in regulated “allowance” markets as well as in more voluntary carbon offset markets. See VANESSA RAULAND & PETER NEWMAN, *DECARBONISING CITIES* 109–12 (2015) (discussing carbon offsets and their role for carbon-neutral communities). Some cities already sell carbon offsets produced from other investments, such as green-space. See *California City Eyes Carbon Credit Revenue from its Trees*, REUTERS (Aug. 15, 2012, 5:10 AM), <https://www.reuters.com/article/us-california-carbon/california-city-eyes-carbon-credit-revenue-from-its-trees-idUSBRE87E0AZ20120815> [<https://perma.cc/U65P-UMF3>].

⁹ See Shelley Welton, *Public Energy*, 92 N.Y.U. L. REV. 267, 306 (2017) (describing a municipal government decision to forgo public ownership and control of energy supply as a form of “outsourcing” to a private utility).

State-centered utility planning and rate setting¹⁰ typically approaches the need for power supply based on a utility's anticipated growth in total energy demand.¹¹ During times of economic expansion, this traditional approach helped spread costs to build out energy infrastructure. At the same time, however, ignoring the incremental burdens of land use in energy planning gives private utilities little incentive to address demand reduction, or to encourage others to make investments or take on the risks of new power supply.¹² Faced with the prospects of global climate change, limits on fossil fuels, and slow deployment of renewables, the current system makes little sense.¹³ It is often far better and cheaper to slow the growth in customer demand for energy than to speed up investments in utility-owned power supply.¹⁴

One traditional way for a local community to address these concerns is to "municipalize" its energy system by taking public ownership of the power distribution grid.¹⁵ Historically, municipal ownership of electric power supply (often called "public power") appealed to communities because it was considered more rational and efficient than outsourcing energy needs to a

¹⁰ For general discussion of this conventional approach, see EDWARD KAHN, *ELECTRIC UTILITY: PLANNING AND REGULATION* 88 (2d ed. 1991), <http://aceee.org/sites/default/files/publications/ebook/electric-utility-planning-and-regulation.pdf> [<https://perma.cc/W86G-MNX2>]. See also discussion *infra* subpart II.B (discussing informational benefits that regulators and markets receive).

¹¹ Since the time of Samuel Insull, state public utility regulators planning for new energy-supply infrastructure have focused primarily on identifying power-supply resources to meet a utility's forecasted customer demand "load," with particular attention to the total amount of power necessary to meet peak customer usage. See THOMAS P. HUGHES, *NETWORKS OF POWER: ELECTRIFICATION IN WESTERN SOCIETY* 218–26 (1983); JOHN L. NEUFELD, *SELLING POWER: ECONOMICS, POLICY, AND ELECTRIC UTILITIES BEFORE 1940*, at 73–95 (2016); HAROLD PLATT, *THE ELECTRIC CITY: ENERGY AND THE GROWTH OF THE CHICAGO AREA, 1880–1930*, at 95–124 (1991).

¹² Utilities, of course, are in the business of selling energy, and despite episodic efforts to incentivize conservation their business flourishes by meeting ever-increasing demand. See Michael P. Vandenberg & Jim Rossi, *Good for You, Bad for Us: The Financial Disincentive for Net Demand Reduction*, 65 *VAND. L. REV.* 1527, 1547 (2012).

¹³ For a discussion of leading climate science, see Christopher Serkin & Michael P. Vandenberg, *Prospective Grandfathering: Anticipating the Energy Transition Problem*, 102 *MINN. L. REV.* 1019, 1026–29 (2018).

¹⁴ Cf. Michael P. Vandenberg et al., *Supply and Demand: Barriers to a New Energy Future*, 65 *VAND. L. REV.* 1447, 1448 (2012) ("Although scholarship and policy tend to focus on improving and increasing renewable energy supply, it is difficult to envision how widely accepted carbon targets can be met, as well as other goals such as energy security, without bending the growth curve of energy demand.").

¹⁵ See Welton, *supra* note 9, at 304–08 (discussing how municipalization presents a fertile opportunity for local governments to address climate concerns).

private utility.¹⁶ Even in those instances where local citizens have expressed some political will to municipalize, securing public ownership of a power grid is difficult. It typically involves eminent domain and requires a city to incur significant debt; it also triggers burdensome state regulatory procedures.¹⁷ Energy exactions provide a powerful tool for a local government to address energy demand and energy supply immediately, regardless of whether its citizens decide to take the more dramatic and costly step of public ownership.

While this Article is the first to propose and defend energy exactions by local governments, it certainly is not new to recognize how exactions force developers to internalize more broadly the costs development poses for a wide array of harms.¹⁸ Other scholars have proposed impact fees to offset environmental burdens, like the destruction of wetlands.¹⁹ And in an insightful and important recent essay, Professors Peter Byrne and Kathryn Zyla defend “climate exactions” as a way of pricing carbon emissions resulting from new development.²⁰ Byrne and Zyla advocate setting a price for carbon and charging it to

¹⁶ See Robert L. Bradley, Jr., *The Origins of Political Electricity: Market Failure or Political Opportunism?*, 17 ENERGY L.J. 59, 67–68 (1996) (observing how many large energy projects that could not be financed privately could be financed through municipal ownership); William M. Emmons III, *Franklin D. Roosevelt, Electric Utilities, and the Power of Competition*, 53 J. ECON. HIST. 880, 887, 900 (1993) (describing how public ownership provided a form of “yardstick” competition that benefitted consumers); William J. Hausman & John L. Neufeld, *Property Rights Versus Public Spirit: Ownership and Efficiency of U.S. Electric Utilities Prior to Rate-of-Return Regulation*, 73 REV. OF ECON. & STAT. 414, 414, 419 (1991) (finding higher productive efficiency for public ownership of electricity production over private ownership); see also MASON WILLRICH, MODERNIZING AMERICA’S ELECTRICITY INFRASTRUCTURE 47–84 (2017) (describing American experiences with public ownership of electric utility monopolies by municipal, state, and federal governments, as well as customer cooperatives).

¹⁷ See Welton, *supra* note 9, at 289 (noting that in the 1990s, many communities considered municipalization but that the barriers “proved too substantial for most localities” because of utility opposition along with a legal requirement that cities help fund previously incurred infrastructure costs).

¹⁸ See, e.g., Rosenberg, *supra* note 1, at 177; Timothy M. Mulvaney, *Legislative Exactions and Progressive Property*, 40 HARV. ENVTL. L. REV. 137, 137–38 (2016) (explaining how property owners must internalize development costs, such as expected infrastructural, environmental, and social harms); see also Benjamin S. Kingsley, Note, *Making it Easy to Be Green: Using Impact Fees to Encourage Green Building*, 83 N.Y.U. L. REV. 532, 549, 552 (2008) (providing methods of making green buildings more cost effective).

¹⁹ See James C. Nicholas & Julian Conrad Juergensmeyer, *Market Based Approaches to Environmental Preservation: To Environmental Mitigation Fees and Beyond*, 43 NAT. RES. J. 837, 858 (2003) (proposing the implementation of “environmental linkage programs,” which would combine impact fees with the principles of market-based regulation, in order to incentivize economical environmental conservation).

²⁰ See Byrne & Zyla, *supra* note 3, at 758.

developers for the carbon footprint of the development as a whole, including from cars and other indirect but predictable carbon impacts.²¹

Our energy exactions proposal is simultaneously more targeted and more ambitious. Focusing on energy infrastructure—as opposed to wetlands degradation or carbon emission more broadly—is consistent with traditional municipal exactions, which seek to offset burdens on other infrastructure. It therefore does not require identifying and pricing environmental harms in the abstract, or monetizing the carbon impacts of vehicle miles traveled resulting from a new development.²² Our proposal would therefore require less legal and legislative change; indeed, municipalities in many states could adopt it without any change in existing law.²³ Our proposal also goes beyond addressing the environmental consequences of energy demand, promising to reconfigure and rationalize utility planning and pricing more generally. In short, energy exactions are a tool for moving towards a pricing of energy supply that approximates the full marginal cost of production (including social costs), for decentralizing risk in new energy infrastructure, and for encouraging inter-governmental competition, while also reducing customer energy demand.

Part I of this Article briefly describes how local governments currently employ land-use exactions as a tool to force developers to internalize many of the costs of new residential or commercial projects. It then contrasts this with traditional utility-scale energy planning, which begins with customer demand estimates and then aims to build energy supply infrastructure to meet this load. In recent years, the sale of electric power in bulk in interstate energy markets has grown in significance and many utility regulators have updated their power planning approaches to be more “comprehensive” and “integrated.”²⁴ Still, even in those areas where interstate power

²¹ See *id.* at 758–59.

²² A strength of the Byrne & Zyla approach is the breadth of the problem it seeks to address. The transportation impacts of new development are a central source of carbon emissions. Focusing on the power grid may ignore some of these costs, though if transportation is electrified there could be considerable convergence between climate and energy exactions.

²³ See *infra* subpart III.A.

²⁴ For discussion of these trends and their origins, see RICHARD HIRSH, POWER LOSS: THE ORIGINS OF DEREGULATION AND RESTRUCTURING IN THE AMERICAN ELECTRIC UTILITY SYSTEM 5–8, 233–34 (2002). Various state “integrated resource planning” approaches are compiled at the Association of Energy Engineers PowerPortal. See *PowerPortal*, ADVANCED ENERGY ECON., <https://powersuite.aee.net/portal> [<https://perma.cc/TFP2-LRHS>] (last visited Sept. 26, 2018).

markets routinely price dispatched energy, most state planning approaches fail to recognize the potential of demand reduction or conservation—important strategies that, if aggregated across individual customers, could substantially reduce any need for new sources of energy supply.²⁵ Nor do state utility-planning decisions address how customer accretion and new uses of energy, typically approved at the local level, strain existing energy supply. Rather, power supply impacts associated with new customers are typically built into a utility's rate base, effectively centralizing infrastructure investment decisions and spreading their costs among all of a utility's residential or commercial customers, rather than specifically concentrating their allocation on new customers or new uses.

Part II discusses how energy exactions or ideas such as energy concurrency in land-use law can help to ensure that new communities produce a diverse range of energy benefits—rather than relentlessly increasing energy supply without paying attention to who bears the costs or without achieving the important benefits of easing demand. By forcing developers to pay the full marginal costs to the energy system of new uses of land, energy exactions can work to provide transparency and standardization in evaluating the impacts on energy demand and the environment—complementing other federal, state and local initiatives, such as those designed to encourage alternative sources of supply or to pursue energy savings. Unlike traditional approaches to utility planning, exactions would flip the energy planning model from supply-follows-demand to place the initial energy expansion burden on those who are best positioned to integrate energy efficiency and conservation measures into the design of communities. Energy exactions will generate better information about customer energy use and its alternatives, assisting regulators in achieving a better match between the approval of new resources and each community's energy needs. Exactions will decentralize and better diversify the risks of various energy supply decisions, encouraging communities themselves to invest in new forms of technological innovation. They also will promote beneficial forms of

²⁵ For example, a 2016 report of load forecasting in western states concluded that systematic overestimation of load growth occurred in utility planning decisions from 2000–2014, despite “integrated” planning approaches. See JUAN PABLO CARVALLO ET AL., ERNEST ORLANDO LAWRENCE BERKELEY NAT'L LAB., LOAD FORECASTING IN ELECTRIC UTILITY INTEGRATED RESOURCE PLANNING 39 (2016), <https://emp.lbl.gov/sites/all/files/lbnl-1006395.pdf> [<https://perma.cc/6FTR-HBA6>]. For further discussion of these problems, see *infra* subpart II.B.

inter-governmental competition between state and local regulators.

Part III evaluates the legal foundations and limits of energy exactions, including their authorization under state law, the extent to which they are vulnerable to intrastate preemption under state utility laws, and the likelihood that they will survive challenges under the Takings Clause and the unconstitutional conditions doctrine. Along the way, we consider issues of jurisdictional mismatch between local governments and the utilities impacted by energy exactions, as well as concerns about affordability. Initially, we show that state enabling or impact fee legislation does not preclude local energy exactions in most states and that, in those instances where it does, modest changes to statutes could enable local governments to address their energy needs.²⁶ Under intrastate preemption, state utility regulation could also potentially be construed as limiting the ability of local land-use regulators to impose new energy charges. However, we show that, properly understood, state utility laws' preemptive effects on local energy exactions are limited to state utility-franchise restrictions on duplicative investment in infrastructure (already safeguarded by state laws that provide an explicit regulatory procedure for municipalization of energy-distribution utilities) or those (rare) situations where local imposition of an energy exaction would foreclose utility investors' ability to recover state-approved costs. Intra-state preemption would not, we argue, preclude land-use regulators from imposing local charges on development for purposes of energy demand reduction or to meet a need for additional energy-supply resources.²⁷

We also argue that, if considered in the land-use planning process, nothing about energy exactions runs afoul of the constitutional requirement that an exaction have a nexus to a legitimate public purpose, as required by *Nollan v. California Coastal Commission*.²⁸ In addition, we maintain that as long as energy exactions are roughly proportionate to the system-wide marginal costs of new uses of land, including the impact on customer energy demand, they meet the proportionality re-

²⁶ See *infra* subpart III.A.

²⁷ See *infra* subpart III.B.

²⁸ *Nollan v. Cal. Coastal Comm'n*, 483 U.S. 825, 836–37 (1987) (noting that an “essential nexus” must exist between a legitimate state interest and a regulatory condition on approval of a residential demolition permit); see *infra* subpart III.C.

quirement of *Dolan v. City of Tigard*.²⁹ Still, evaluating energy exactions under these tests might prove helpful to steer some energy exactions towards the kind of marginal social cost pricing that regulators typically emphasize in allocating the costs of new energy infrastructure among customers.

Part IV concludes by summarizing the benefits of energy exactions as a regulatory tool. In addition to producing better information regarding the genuine energy impacts and opportunities associated with new uses of land, these benefits include decentralized investor risk in meeting future energy needs and increased inter-governmental competition that can create new forms of energy value. More widespread recognition of energy exactions will help make urban growth and customer demand central to the energy-planning process, allowing communities to better address the full costs and benefits of growth, including problems related to energy grid reliability and climate change.

I

THE EXISTING LANDSCAPE

Land use practice has evolved significantly since the widespread adoption of comprehensive zoning in the first half of the twentieth century. What began as an exercise in anticipating and planning for optimal development patterns has slowly transformed into a regulatory framework based on deal-making between developers and municipalities.³⁰ Those deals typically include developer concessions and even payments in exchange for the municipality granting discretionary permits and zoning changes either as part of *ad hoc* bargaining, or through more formal legislated “prices” for different developments.³¹ This Part sets out how this kind of deal-making is used today to finance infrastructure improvements and then contrasts this

²⁹ *Dolan v. City of Tigard*, 512 U.S. 374, 391 (1994) (applying the doctrine of unconstitutional conditions to require “rough proportionality” between the condition’s requirements and the impacts of development).

³⁰ See Carol M. Rose, *Planning and Dealing: Piecemeal Land Controls as a Problem of Local Legitimacy*, 71 CALIF. L. REV. 837, 848–51 (1983); see also Alejandro E. Camacho, *Community Benefits Agreements: A Symptom, Not the Antidote, of Bilateral Land Use Regulation*, 78 BROOK. L. REV. 355, 356 (2013) (identifying “larger movement throughout the United States away from the unilateral, government-dominated model of land use regulation and toward a more negotiated paradigm”); Christopher Serkin & Gregg P. Macey, *Post-Zoning: Alternative Forms of Public Land Use Controls*, 78 BROOK. L. REV. 305, 310–11 (2013) (describing shift towards “dealing” model of land use regulation).

³¹ See Mulvaney, *supra* note 18, at 142–49 (contrasting legislated and *ad hoc* exactions).

practice with conventional regulatory decisions regarding energy supply infrastructure.

A. Land Use Exactions

Zoning and land-use controls have become important tools for financing municipal infrastructure.³² For casual observers of land use regulations, this might be surprising. Zoning, after all, has traditionally focused on narrow goals: separating incompatible uses of land and planning for future growth.³³ Today, however, sophisticated municipalities treat zoning regulations, particularly discretionary approvals, as opportunities to compel developers to bear some of the public costs of development. These demands, imposed as conditions for development, are referred to generally as exactions.³⁴

According to Professor Vicki Been, exactions arose early in the twentieth century in response to the failure of another financing mechanism for public improvements: special assessments.³⁵ Prior to the 1930s, many municipalities would pay for street paving and other kinds of infrastructure by levying special assessments on affected property owners, allocating the cost to those property owners specifically benefitted by the improvements.³⁶ Following the economic upheavals of the 1920s and 1930s, many municipalities found themselves unable to recover the costs of their public improvements and were left holding the proverbial bag. The early use of exactions addressed this risk by forcing private developers to pay for infrastructure improvements up front, as a condition of developing

³² See, e.g., ROBERT C. ELLICKSON ET AL., *LAND USE CONTROLS* 670 (4th ed. 2013) (including development exactions in a chapter on infrastructure financing as part of land use process).

³³ Serkin & Macey, *supra* note 30, at 307 (describing origins of zoning).

³⁴ See, e.g., Mark Fenster, *Regulating Land Use in a Constitutional Shadow: The Institutional Contexts of Exactions*, 58 *HASTINGS L.J.* 729, 730 n.7 (2007) (defining "'exactions' to refer to all conditions on development, including the dedication of land, fees in lieu of dedication, or impact fees."); see also Rosenberg, *supra* note 1, at 181 ("Increasingly, local governments combine their traditional land use regulatory powers with their authority to impose land development conditions. This practice has become known as requiring 'exactions' as a condition of land use approval . . .").

³⁵ Vicki Been, "*Exit*" as a Constraint on Land Use Exactions: Rethinking the Unconstitutional Conditions Doctrine, 91 *COLUM. L. REV.* 473, 479–80 (1991).

³⁶ See *id.* at 479 (describing the origins of land use exactions); Rosenberg, *supra* note 1, at 191–204 (describing the history of exactions). Assessments are distinct from taxes because they are not borne by all property owners, but only by property owners directly affected by the improvement. See Derek P. Cole, Comment, *Special Assessment Law Under California's Proposition 218 and the One-Person, One-Vote Challenge*, 29 *MCGEORGE L. REV.* 845, 852–53 (1998).

their property.³⁷ The use of exactions became more widespread with the popularization of subdivisions, and usually took the form of dedications of land. Local governments, for example, would allow private subdivisions only on the condition that the developer first build roads and sidewalks and dedicate them to the public.³⁸

Today, exactions are imposed in many different contexts and result in various forms of developer-provided benefits. Exactions are no longer limited to subdivisions or to on-site dedications of property.³⁹ Applications for subdivision permits are still a frequent source of exactions, but so too are requests for a rezoning or a variance, all of which require the granting of discretionary approvals.⁴⁰ And municipalities seek more than just land. Today, exactions include fees in lieu of dedications of land as well as impact fees for various adverse consequences of development.⁴¹ There are also different ways to impose exactions. Some arise through *ad hoc* bargaining between developers and municipal officials, while others are legislated as pre-specified “prices” for different kinds of developments.⁴²

³⁷ See Been, *supra* note 35, at 479; see also R. Marlin Smith, *From Subdivision Improvement Requirements to Community Benefit Assessments and Linkage Payments: A Brief History of Land Development Exactions*, 50 L. & CONTEMP. PROBS. 5, 6 (1987) (describing history of exactions).

³⁸ Been, *supra* note 35, at 479; see also Carlos A. Ball & Laurie Reynolds, *Exactions and Burden Distribution in Takings Law*, 47 WM. & MARY L. REV. 1513, 1522–29 (2006) (describing the history of exactions).

³⁹ See, e.g., Smith, *supra* note 37, at 7–9, 14–16 (describing rise of off-site improvement requirements and cash payments).

⁴⁰ See, e.g., James A. Kushner, *Property and Mysticism: The Legality of Exactions as a Condition for Public Development Approval in the Time of the Rehnquist Court*, 8 J. LAND USE & ENVTL. L. 53, 107 (1992) (“As a condition for discretionary land use approval, communities typically impose exactions in the subdivision process.”).

⁴¹ See, e.g., Fenster, *supra* note 34, at 734 n.34 (“The term ‘exactions’ includes, among other types, the dedication of land for the siting of public services or amenities (such as schools or parks), fees in lieu of dedication, impact fees to fund the provision of public services, and linkages, off-site development impact exactions intended to address effects linked to an approved development, such as the increased need for affordable housing that might result from commercial and/or office development.”); see also Ball & Reynolds, *supra* note 38, at 1524 (describing the “revolution in exaction utilization [that] took place in the 1970s and 1980s”) (quoting another source); Kushner, *supra* note 40, at 107–41 (describing various forms of exactions).

⁴² See Mulvaney, *supra* note 18, at 138 (“There are two broad, source-based categories of exactions: *those imposed via case-by-case administration* (consider a permitting official determining in the course of an application review that a specific applicant must dedicate an identifiable portion of land before converting tennis courts to condominiums) and *those imposed via broadly applicable legislative formulas or schemes* (consider a local ordinance requiring all developers to replace every acre of wetlands they destroy with two acres of newly created wetlands.)” (emphasis in original); see also Been, *supra* note 35, at 481 (“Local

Whatever their form, exactions can serve the important goal of forcing developers to internalize burdens on the community created by a new project.⁴³ While development can increase the tax base and throw off economic and other benefits, it inevitably imposes costs on a municipality as well.⁴⁴ Most obviously, these include extending and maintaining infrastructure like roads, water, and wastewater. But costs also include the added congestion of local services such as increased traffic, more students in public school, heavier burdens on emergency services, and so forth. Exactions therefore often include fees or in-kind work by developers to upgrade transportation infrastructure, to fund public school expansions, to build or finance an expansion of emergency services, and even to pay for beautification where development negatively impacts an area's scenic beauty.⁴⁵ If this all seems somewhat vague, two representative examples illustrate the contexts in which exactions can arise and how they can be either *ad hoc* or legislated in advance.

Today, many municipalities place significant amounts of land into what are colloquially referred to as "holding zones."⁴⁶ A holding zone does not reflect a specific zoning designation but instead amounts to a restrictive limit on permissible uses—often exclusively agricultural or industrial uses—in places where some other use is ultimately intended.⁴⁷ The point of a

governments impose exactions either according to a nondiscretionary, predetermined schedule, or through case-by-case negotiations."). A set formula is used to impose the majority of exactions, although a significant percentage are imposed through *ad hoc* bargaining. *See id.*

⁴³ Mulvaney, *supra* note 18, at 137–38 ("Exactions . . . ostensibly oblige property owners to internalize the costs of the expected infrastructural, environmental, and social harms resulting from development."); *see also* ROBERT H. FREILICH & MICHAEL M. SHULTZ, *MODEL SUBDIVISION REGULATIONS: PLANNING AND LAW* 6 (2d ed. 1995) ("The concept of making development pay its own way now goes beyond the mere dedication of parkland and school sites. It includes contribution to the cost of providing all publicly produced benefits—roads, police and fire services, medical services, water and sewer services, libraries, and more.").

⁴⁴ Development can generate benefits as well, of course, and those benefits may constrain the use of exactions if municipalities compete for certain kinds of development. *See, e.g.,* Been, *supra* note 35, at 509–10 (describing the sources of competition that a community encounters after imposing exactions).

⁴⁵ *See supra* note 1.

⁴⁶ *See* Roderick M. Hills, Jr. & David Schleicher, *Planning an Affordable City*, 101 IOWA L. REV. 91, 120 n.132 (2015) ("[C]ities have increasingly devoted land to 'holding zones,' or areas with no right to build, so that they can create conditions on all building.").

⁴⁷ *See, e.g.,* Douglas W. Kmiec, *Deregulating Land Use: An Alternative Free Enterprise Development System*, 130 U. PA. L. REV. 28, 48 (1981) ("Especially in the case of undeveloped land, zoning officials frequently employ low density holding zones to ensure their ability to exercise discretion over the project."); *see also*

holding zone is that someone seeking to develop property there will need to have it rezoned.⁴⁸ A property owner is generally not entitled to a rezoning as of right, however, but must petition the local legislative body for the change.⁴⁹ That petition creates a bargaining moment, where the developer and the local government negotiate the conditions for rezoning the property. Developers in this interaction are in effect supplicants to the local legislature, and are often willing to pay to induce a rezoning so long as the development is sufficiently valuable.⁵⁰ Some of those conditions may restrict how the rezoned property will be developed.⁵¹ Other conditions may involve building out infrastructure, constructing affordable housing, dedicating land to the public, and even paying money into a municipal fund—in short, paying for some of the burdens the development will impose, to whatever extent the developer and municipality

Serkin & Macey, *supra* note 30, at 315 (“Some local governments adopt ‘holding zones’ by, say, designating large swaths of land for agricultural use only.”).

⁴⁸ See 4 AMERICAN LAND PLANNING LAW § 78:35 (Rev. Ed.) (describing holding zones as “designed to delay development for one reason or another . . . with the understanding that, when conditions were right for development, the land could be transferred into another and perhaps quite different zone.”).

⁴⁹ See, e.g., *Fritz v. Lexington-Fayette Urb. Cty. Govt.*, 986 S.W.2d 456, 458 (Ky. Ct. App. 1998) (“[W]hen the legislative body denies the requested change, the property owner must show the decision was ‘arbitrary,’ and whether an action is arbitrary depends on whether the proponents of change can show ‘[n]o rational connection between that action and the purpose for which the body’s power to act exists.’”) (quoting *City of Louisville v. McDonald*, 470 S.W.2d 173, 178 (Ky. 1971)). *But see* *Exec. 100, Inc. v. Martin Cty.*, 922 F.2d 1536, 1540 (11th Cir. 1991) (identifying claims challenging government failure to rezone); *Jack v. City of Olathe*, 781 P.2d 1069, 1075–77 (Kan. 1989) (subjecting failure to rezone to traditional regulatory takings analysis); *Taub v. City of Deer Park*, 882 S.W.2d 824, 826 (Tex. 1994) (same); see also Christopher Serkin, *Passive Takings: The State’s Affirmative Duty to Protect Property*, 113 MICH. L. REV. 345, 376–77 (2014) (discussing cases involving requests for a rezoning).

⁵⁰ See, e.g., WILLIAM A. FISCHER, *THE HOMEVOTER HYPOTHESIS* 16 (2001) (describing developers in “homevoter” jurisdictions as “supplicants”).

⁵¹ These restrictions, typically recorded as “restrictive declarations” in the deed, may specify permissible uses, set aside some property as open space, and so forth. See generally N.Y.C. BLDGS. DEP’T, BUILDINGS BULLETIN 2015-008, (Apr. 3, 2015), https://www1.nyc.gov/assets/buildings/bldgs_bulletins/bb_2015-008.pdf [<https://perma.cc/8WHT-25WM>] (laying out procedures and requirements for restrictive declarations).

agree.⁵² This sort of *ad hoc* bargaining is a routine part of the development process in many jurisdictions.⁵³

For an example of legislated exactions, consider Citrus Heights, California, which determines its fees according to a straightforward calculation.⁵⁴ Separate categories including single-family residential dwellings, multi-family dwellings, and commercial spaces are subject to different fees based on size. A developer constructing a new single-family residence, for example, will have to pay nearly \$1,500 in “road and transit fees.”⁵⁵ Developers of commercial office space must pay .97¢ per square foot towards affordable housing, and \$1,519 per 1,000 square feet towards a transportation mitigation program.⁵⁶ Other common legislated exactions in other jurisdictions include fees for schools, wastewater, parks, and fire departments, to name just a few.⁵⁷ Whatever impact fees a municipality imposes in this way, developers know ahead of time the “price” of obtaining permission to build and can incorporate those costs into their planning.

⁵² See, e.g., *Durand v. IDC Bellingham, LLC*, 793 N.E.2d 359, 364 (Mass. 2003) (holding that a private power plant developer’s voluntary offer to donate money to town conditional on approval of its project did not invalidate rezoning); *Holmdel Builders Ass’n v. Holmdel*, 583 A.2d 277, 287 (N.J. 1990) (holding that municipalities can impose reasonable fees on development of commercial residential property as inclusionary zoning measures to provide lower-income housing); *Redmond v. Kezner*, 517 P.2d 625, 630 (Wash. Ct. App. 1973) (upholding the validity of an agreement between property owners and a city in which the property owners agreed to dedicate portions of their lands for a street system in return for the city’s rezoning their property for commercial use).

⁵³ See Fenster, *supra* note 1, at 671 (“[N]egotiated land use decisions are an essential aspect of contemporary local American governance”); Sean F. Nolon, *Bargaining for Development Post-Koontz: How the Supreme Court Invaded Local Government*, 67 FLA. L. REV. 171, 192–96 (2015) (describing *ad hoc* negotiations).

⁵⁴ *Development Impact Fees*, City of Citrus Heights (August 2018), [http://www.citrusheights.net/DocumentCenter/View/105/Development-Impact-Fees-Brochure-PDF?bidId=\[https://perma.cc/3HD9-PJ4H\]](http://www.citrusheights.net/DocumentCenter/View/105/Development-Impact-Fees-Brochure-PDF?bidId=[https://perma.cc/3HD9-PJ4H]).

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ See, e.g., Frona M. Powell, *Challenging Authority for Municipal Subdivision Exactions: The Ultra Vires Attack*, 39 DEPAUL L. REV. 635, 642 n.50 (1990) (“New forms of exactions such as impact fees and linkage may finance not only traditional improvements, but nontraditional improvements and services such as child day care, public art, historic artifacts, public transit systems, bookmobiles, jogging tracks, helicopter pads, recreational community gardening, job training, low or moderate-income housing, library sites, and police and fire stations.”); see also Been, *supra* note 35, at 482 (“Recent nationwide surveys of recreational impact fees for parks and playgrounds, for example, indicated that the fees charged for a 1500 square foot single family house ranged from \$25 to \$1800. A 1981 survey of cities and counties in the San Francisco Bay region revealed that total impact fees ranged from \$23 to \$4287 for single-family homes, and from \$300 to \$18,371 for multifamily dwellings.”) (citations omitted).

Regardless of their specific form, exactions raise some complex policy issues. For one, they allocate the public costs of development to a community's newcomers instead of in-place property owners.⁵⁸ Typically, infrastructure improvements are funded by the jurisdiction's tax base as a whole; exactions impose those costs only on developers and therefore on consumers of new housing or new commercial space. The politics of that choice are obvious enough and it is easy to understand why exactions are appealing to municipal officials: costs are borne by people who do not live there yet, to the benefit of in-place property owners and voters. But normatively, the distributional consequences are not so clear. Exactions convert at least some financing for municipal infrastructure from a tax into a kind of fee for services.⁵⁹ And they reflect an implicit view that in-place owners are entitled to the status quo, while developers (and the newcomers they represent) must pay their own way to enter the municipality. We return to these distributional consequences in the context of our proposal in Part III. But it is important to see that these dynamics pervade more traditional uses of exactions as well.

B. Traditional Energy Planning

In contrast to land-use exactions, which put a price on new development based on its marginal costs to public infrastructure, traditional energy planning spreads all of the costs of growth among all of a utility's retail customers.⁶⁰ The conventional energy-planning process relies on a private utility presenting its customer demand forecasts to energy regulators,

⁵⁸ Cf. Molly S. McUsic, *Looking Inside Out: Institutional Analysis and the Problem of Takings*, 92 NW. U. L. REV. 591, 626 (1998) ("The distributive impact of . . . exaction[s] . . . is a wealth transfer from either current homeowners or vacant landowners to the beneficiaries of the exaction program.").

⁵⁹ See, e.g., Ball & Reynolds, *supra* note 38, at 1526 ("[T]he shift to nontax financing has ushered in a more privatized system for the provision of infrastructure and services, one in which individual citizens contribute revenues according to their consumption or the burdens that their activities impose on the community."); see also Laurie Reynolds, *Taxes, Fees, Assessments, Dues, and the "Get What You Pay for" Model of Local Government*, 56 FLA. L. REV. 373, 376 (2004) (describing exactions as contributing to a "dues mentality" that threatens to replace local taxation).

⁶⁰ For purposes of our discussion, we use the term "utility" broadly, to include both municipally-owned utilities (which may, but need not, share the same jurisdictional boundaries as local government regulators of land use) and investor-owned utilities, which typically operate across multiple local government jurisdictional boundaries. For purposes of simplification, we assume that either utility is primarily motivated by covering the costs of its operations, which for the investor-owned utility includes a profit margin.

who then evaluate the various options for expanding energy supply infrastructure to meet this customer load.⁶¹ This top-down utility planning process has failed to sufficiently address the role of customer energy resources—an issue that, we maintain, is strongly tied to local use of land and its regulation and that local governments should not have to outsource to private utilities and state regulators.

1. *Top-Down Energy Resource Capacity Planning*

The traditional approach to energy planning makes energy-supply-infrastructure decisions based on customer-load forecasts. Under this top-down approach, the customer demand for energy is an exogenous input to the assessment of energy resource options. This approach therefore centralizes investment decisions and passes through their costs in a utility's rate base to all customers—a stark contrast to an exactions-based approach that would not allocate costs as broadly as possible, but would allocate them to the specific activities that generate new burdens.

Like any business making investment decisions, a utility evaluates its investment options based on the cost of adding the next kilowatt hour of electricity to the grid to meet its customer needs. Utilities not only own the transmission and distribution grid that delivers energy to customers;⁶² many privately- and publicly-owned utilities also own and operate their own power-generation facilities, which supply energy to customers.⁶³ When confronted with a need for more energy supply, however, a utility cannot magically produce kilowatt hours overnight. It must either purchase energy for its customers (which often requires long-term contractual commitments with power-generation facilities) or build and operate

⁶¹ We also use the term “energy regulators” broadly. For investor-owned utilities, the regulator is typically a state public utility commission. For municipal utilities, discussed *infra* at notes 193–195 and accompanying text (subpart III.B, *infra*), the regulator is typically a local oversight board, though there is considerable variation in how such boards make their decisions. We assume that regulators are primarily motivated to pursue the public interest in making decisions about energy supply, which includes providing customers low cost, reliable energy.

⁶² Distribution facilities are characterized by proximity to retail customers, primarily inward flows of power (typically within a specific state), and lower voltage than transmission lines, which typically operate at higher voltages and carry power over long distances, often across multiple states.

⁶³ *How Electricity is Delivered to Consumers*, U.S. ENERGY INFORMATION ADMIN., https://www.eia.gov/energyexplained/index.php?page=electricity_delivery (“Some electric utilities generate all the electricity they sell using just the power plants they own.”).

these power supply resources itself. The high fixed costs associated with these options require a utility to engage in its own “capacity expansion planning” in deciding where to make capital investment commitments related to sources of energy supply.⁶⁴ As a leading treatise on utility planning describes it, “[t]aking the load forecast [of customer demand] as an input, a generation expansion plan can be specified which will meet anticipated demand and be used in turn as input to both production costing and reliability evaluation.”⁶⁵

In contrast to land-use exactions, then, the pricing of new energy-resource commitments spreads costs among all of a utility’s customers, much like general taxation.⁶⁶ State-utility regulation (as well as regulation by local municipal utility governing bodies) reinforces this approach in most jurisdictions to the extent that it allocates the costs of new investments to retail customers in setting “just and reasonable” rates based on the cost of service. Although federal regulators⁶⁷ and a number of states⁶⁸ have adopted more market-oriented approaches for customers to choose their energy-supply providers, most state regulators continue to allocate the costs of new investments based on the principle that various customer classes should bear costs in rate base proportionate to the need for new investment to serve their peak load.⁶⁹ General residential customers of a utility, for example, typically pay for the costs of building power plants and energy delivery infrastructure for purposes of meeting their load.

While it has provided certainty for utility investors, this traditional planning approach has proved notoriously ineffective as a way of promoting efficient capital investment in energy

⁶⁴ KAHN, *supra* note 10, at 87–88.

⁶⁵ *Id.* at 90.

⁶⁶ See Richard A. Posner, *Taxation by Regulation*, 2 BELL J. ECON. & MGMT. SCI. 22, 41 (1971).

⁶⁷ See Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities, 61 Fed. Reg. 21,540 (FERC May 10, 1996) (codified at 18 C.F.R. pts. 35, 385).

⁶⁸ See U.S. Energy Info. Admin., *State Retail Choice Programs are Popular with Commercial and Industrial Customers*, TODAY IN ENERGY (May 14, 2012), <https://www.eia.gov/todayinenergy/detail.php?id=6250> [<https://perma.cc/QBY7-F3CU>] (noting that a majority of residential customers have signed up for retail power supply choice in as many as nine states, and that a majority of industrial customers have retail choice in as many as thirteen states).

⁶⁹ See Robert R. Nordhaus, *Electric Power Regulation: Making Partially-Deregulated Markets Work*, 54 ADMIN. L. REV. 365, 380 (2002) (observing that “[c]lost-of-service set rates, based on the seller’s average cost, can be above or below marginal costs . . .”).

infrastructure. Cost-of-service regulation produces an incentive for utilities to overstate their need for new capital-intensive power generation assets⁷⁰ and rarely penalizes errors in forecasting of customer demand growth.⁷¹ This may not have been an issue as demand for energy was consistently growing after World War II, but the price shocks to the energy sector in the 1970s changed everything. New plants that were built on the assumption of continued demand growth (including predictions that the historic pattern of doubling electricity demand every decade would continue)⁷² and forecasts of high oil and gas prices came online at a high cost.⁷³ As fuel prices began to decline in the 1980s, the short-run marginal costs of producing energy were below the average costs associated with expensive older plants.⁷⁴

In addition to spreading the costs of energy resources among all residential or commercial customers, this conventional approach forces a utility's investors and customers to bear the primary burden (including the risks) of any economic and technological change in power-supply resources. It is thus not surprising that, in rewarding investment in larger-scale base load power generation assets, traditional energy planning locks in technological choices about power generation made decades ago, favors incumbent (sometimes even obsolete) power-generation resources, thwarts new entrants, and delays innovation in the energy-resource mix.⁷⁵ Over the past thirty years, federal regulators have consistently recognized that

⁷⁰ See Harvey Averch & Leland L. Johnson, *Behavior of the Firm Under Regulatory Constraint*, 52 AM. ECON. REV. 1052, 1066–67 (1962).

⁷¹ For a discussion of how state prudence review of customer rates contributed to a serious overcapacity problem with coal and nuclear baseload plants, see Richard J. Pierce, Jr., *The Regulatory Treatment of Mistakes in Retrospect: Canceled Plants and Excess Capacity*, 132 U. PA. L. REV. 497, 502 (1984) (discussing overcapacity problems associated with large coal and nuclear plants, and how regulators sought to correct for them in customer rate setting).

⁷² See Bernard S. Black & Richard J. Pierce, Jr., *The Choice Between Markets and Central Planning in Regulating the U.S. Electricity Industry*, 93 COLUM. L. REV. 1339, 1345–46 (1993).

⁷³ See KAHN, *supra* note 10, at 2.

⁷⁴ See *id.*

⁷⁵ See Pierce, *supra* note 71, at 508–09 (discussing prudence in regulatory approval of nuclear power plants). This led to a significant financial burden for electric utilities known as the “stranded cost” problem, which pitted investors (who asked regulators to compensate them for uneconomic utility assets and higher risks) against incumbent customers (who sought to keep rates low). See, e.g., Emily Hammond & Jim Rossi, *Stranded Costs and Grid Decarbonization*, 82 BROOK. L. REV. 645, 650–63 (2017) (describing energy law’s history with stranded cost issues); see also Jim Rossi, *The Irony of Deregulatory Takings*, 77 TEX. L. REV. 297, 306–10 (1998) (reviewing J. GREGORY SIDAK & DANIEL F. SPULBER, *DEREGULATORY TAKINGS AND THE REGULATORY CONTRACT: THE COMPETITIVE TRANSFORMATION OF*

power supply resources bidding into wholesale power markets are competitive in nature,⁷⁶ but most states continue to adhere to a centralized energy-resource-planning process.⁷⁷

2. Customer Savings as an Energy Resource

At its core, conventional energy planning strikes a regulatory bargain that is fundamentally different in scope and kind than the land-use-exaction bargain. Traditional energy planning reflects bargaining between a utility and a regulator for the approval of new energy-resource investments. Under this paradigm, a utility's proposed energy resources that advance customer reliability goals are routinely approved by regulators, who prioritize system-wide reliability in their planning decisions.⁷⁸ For most energy-capacity resources, utilities strike this bargain with regulators at the state level, so the jurisdictional footprint of the bargain can differ considerably from that of land-use bargaining. For this reason, many states adopted siting laws to ensure that state decisions about energy supply preempt local land-use decisions to the contrary, as where a local government refuses to issue permits for a new power plant mandated by state regulators.⁷⁹

Since the nature of the regulatory proceeding is typically between the utility presenting a need for new power-supply capacity and a regulator who is charged to protect *all* consumers in making its decisions, any customer-produced energy savings and energy-resource potential is largely sidelined during the traditional energy-planning process. Regulators' primary fixation on the approval of power supply capacity to meet forecasted customer needs (where customer demand is a mere input) gives short shrift to the potential that customer demand itself can provide an energy resource. However, unconsumed energy—in the form of energy efficiency or conservation—is effectively the same as additional production. It is just harder for utilities to capture its economic value.

NETWORK INDUSTRIES IN THE UNITED STATES (1997)) (addressing stranded cost issues related to electric power industry restructuring).

⁷⁶ See, e.g., Promoting Wholesale Competition, *supra* note 67.

⁷⁷ See U.S. Energy Info. Admin., *supra* note 68.

⁷⁸ See, e.g., Leighton Lord & Jeff Ruble, *A Case for Coordinating Economic Development Planning with Energy Planning*, 7 S.C. J. INT'L L. & BUS. 165, 168–70 (2011) (arguing that economic development planners must better predict future energy costs due to the increased importance of energy availability, reliability, and affordability).

⁷⁹ Ashley C. Brown & Damon Daniels, *Vision Without Site; Site Without Vision*, ELECTRICITY J., Oct. 2003, at 23, 34 (describing state siting statutes and their preemptive effects on local land-use approvals).

The failure to recognize the potential of customers as energy resources is a major flaw with traditional utility planning. There is considerable evidence that customer behavior related to energy usage can have a considerable impact on the need for new energy supply by reducing customer peaks and overall customer energy usage.⁸⁰ In addition, the conventional approach ignores customers' opportunity to self-generate energy rather than purchase it from the utility. Historically, this opportunity may only have been available to the largest customers. Today, however, many smaller commercial and residential customers can readily self-generate energy through technologies such as distributed solar.⁸¹ Customer energy-storage technologies are expected to be commercially viable in the next decade too, potentially accelerating the trend towards self-generation.⁸²

Planning decisions regarding new transmission lines often suffer from a similar myopia in their failure to consider customer demand. Shelley Welton has demonstrated how the traditional interstate-transmission-line planning process (which, until recently, occurred primarily at the state level) has failed to take into account these customer energy resources.⁸³ She recommends that the Federal Energy Regulatory Commission (FERC) take on a larger role in overseeing its planning and pricing of the interstate transmission grid.⁸⁴ Since states, rather than FERC, regulate the approval and retail customer pricing of new energy supply resources such as power generation, public-service commissions guide incremental investment

⁸⁰ See Vandenberg & Rossi, *supra* note 12, at 1538–44.

⁸¹ See U.S. DEPT OF ENERGY, THE POTENTIAL BENEFITS OF DISTRIBUTED GENERATION AND RATE-RELATED ISSUES THAT MAY IMPEDE ITS EXPANSION: REPORT PURSUANT TO SECTION 1817 OF THE ENERGY POLICY ACT OF 2005 (2007), http://energy.gov/sites/prod/files/oeprod/DocumentsandMedia/1817_Report_-final.pdf [<https://perma.cc/X5D9-7N4G>] (analyzing the increased availability of distributed energy generation to customers); Jon Wellinghoff & Steven Weissman, *The Right to Self-Generate as a Grid-Connected Customer*, 36 ENERGY L.J. 305, 305–06 (2015) (addressing the “tension between consumers’ access to distributed generation and distribution utilities aversion to increased levels of customer owned generated increases”).

⁸² See Amy L. Stein, *Distributed Reliability*, 87 U. COLO. L. REV. 887, 918 (2015) (stating that emerging technologies are rendering small-scale energy storage by customers “plausible”).

⁸³ See Shelley Welton, *Non-Transmission Alternatives*, 39 HARV. ENVTL. L. REV. 457, 475 (2015).

⁸⁴ *Id.* at 505–13. In Order 1000, FERC ordered utilities to give non-transmission alternatives such as customer energy resources “comparable consideration” to building new transmission lines, in order to promote a technologically neutral transmission-line planning process. See Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities, 76 Fed. Reg. 49,842, 49,869 (FERC Aug. 11, 2011) (codified at 18 C.F.R. pt. 35).

decisions regarding energy resources such as power generation.⁸⁵ Not surprisingly, traditional utility-resource planning at the state level fails to motivate utilities to invest in, or encourage, conservation and demand reduction. The top-down approach to planning and pricing energy capacity gives utilities little incentive to encourage customers to reduce energy usage because this represents lost sales.⁸⁶ In practice, regulators too often settle for “not too large” net ratepayer revenue losses in approaching conservation incentives, as fixed costs would need to be allocated among remaining customers and might lead to unpopular rate increases.⁸⁷

To date, many state utility regulators have experimented with measures aimed at reducing customer demand, but in most jurisdictions cost-based rate regulation of utility energy resource investments remains the norm in setting retail rates.⁸⁸ Still, neither utilities nor regulators face particularly strong incentives to encourage either demand reduction or customer energy-resource innovations. If utilities and their regulators are not encouraging such innovations, customers will likely underinvest in them too.⁸⁹ This seems obvious for customer-distributed generation resources, such as rooftop solar.⁹⁰ It is also true of investments that can reduce retail

⁸⁵ Under the Federal Power Act, FERC has jurisdiction over transmission facilities and wholesale power supply transactions, but Congress exempted state regulation of generation and distribution facilities from FERC’s jurisdiction. See 16 U.S.C. § 824 (2018).

⁸⁶ See Vandenberg & Rossi, *supra* note 12, at 1560.

⁸⁷ See KAHN, *supra* note 10, at 240.

⁸⁸ See Nordhaus, *supra* note 69, at 380 (“To ensure that market power is constrained during times of high demand or during generation or transmission outages, virtually every seller of any consequence in the market has to be subject to cost-based rates.”); see also Jeff Lien, *Electricity Restructuring: What Has Worked, What Has Not, and What is Next*, at 15–16 (2008), <https://www.justice.gov/sites/default/files/atr/legacy/2008/04/30/232692.pdf> [<https://perma.cc/4WZ5-UW3D>] (noting that, despite wholesale power markets and a handful of states that have adopted retail electric competition, most distribution utilities remain regulated and most customers do not choose suppliers but rely on a default service provider, whose rates are set based on the cost).

⁸⁹ See Scott Vitter & Thomas Deetjen, *How To Overcome the Greatest Barriers to Rooftop Solar Power*, SCI. AM., (June 8, 2016), <https://blogs.scientificamerican.com/plugged-in/how-to-overcome-the-greatest-barriers-to-rooftop-solar-power/> [<https://perma.cc/5625-AN7Y>]. For a broader survey of the impacts of electric utility regulation on innovation, see Luke A. Stewart, *The Impact of Regulation on Innovation in the United States: A Cross-Industry Literature Review* 15–17 (Econ. Analysis Group, Discussion Paper, June 2010), <https://www.itif.org/files/2011-impact-regulation-innovation.pdf> [<https://perma.cc/QR7B-SR9L>].

⁹⁰ Cf. Garrick B. Pursley & Hannah J. Wiseman, *Local Energy*, 60 EMORY L.J. 877, 931–55 (2011) (arguing that the power of local governments needs to be unleashed to encourage development of customer renewable energy resources).

customer demand response, such as smart meters.⁹¹ To take just one example, customers with time-of-use pricing of utility services significantly reduce their peak usage of the energy system in contrast to customers who pay a flat rate.⁹² And yet innovation and deployment of such approaches remains rare.

Traditional energy-planning approaches have been subject to much criticism, and both markets and regulators are increasingly recognizing customers as energy resources. FERC has adopted pricing for demand response in organized wholesale power markets, placing economic value on customer commitments to save energy and reduce energy usage.⁹³ State regulators in California and Oregon have made impressive efforts to integrate local land-use planning into state-energy planning with an emphasis on a range of different energy options that include customer energy savings and new power supply options.⁹⁴ Several states, including California, have

⁹¹ William Boyd & Ann E. Carlson, *Accidents of Federalism: Ratemaking and Policy Innovation in Public Utility Law*, 63 UCLA L. REV. 810, 842–43, 860 (2016) (discussing federal incentives aimed at encouraging innovation from more widespread adoption of smart meters for customers).

⁹² Cf. Southern Env'tl. L. Ctr. & Caroline Golin, *A Troubling Trend in Rate Design: Proposed Rate Design Alternatives to Harmful Fixed Charges* 5–7 (Dec. 2015), https://www.southernenvironment.org/uploads/news-feed/A_Troubling_Trend_in_Rate_Design.pdf [<https://perma.cc/ZJ7N-SVA3>] (“[Time-of-use] rates communicate to customers that the cost to produce and deliver electricity is much higher during peak hours than off-peak hours.”); see also Boyd & Carlson, *supra* note 91, at 856–61, 870–77 (describing various state price incentives designed to promote more efficient customer energy usage, including peak and time-variant pricing).

⁹³ See Demand Response Competition in Organized Wholesale Energy Markets, 76 Fed. Reg. 16,658 (FERC Mar. 24, 2011) (codified at 18 C.F.R. pt. 35). As the Supreme Court noted in upholding FERC’s regulations, demand response is not a creation of either federal or state regulation, but is “a market-generated innovation for more optimally balancing” the supply and demand of energy. FERC v. Elec. Power Supply Ass’n, 136 S.Ct. 760, 779 (2016).

⁹⁴ See, e.g., CAL. ENERGY COMM’N, THE ROLE OF LAND USE IN MEETING CALIFORNIA’S ENERGY AND CLIMATE CHANGE GOALS 27 (Aug. 2007), <http://www.energy.ca.gov/2007publications/CEC-600-2007-008/CEC-600-2007-008-SF.PDF> [<https://perma.cc/H92Q-FV8B>] (observing how several municipal governments have adopted energy initiatives related to this coordinated policy approach); Or. Dep’t of Land Conservation and Dev., *Oregon Statewide Planning Goals* (Mar. 2, 2010), https://www.oregon.gov/LCD/docs/goals/compilation_of_statewide_planning_goals.pdf [<https://perma.cc/TA2S-24QL>] (adopting non-mandatory energy conservation guidelines that encourage local governments to recycle and re-use vacant land, consider land-use density, and utilize renewable energy resources). In addition, some utilities and local governments have pursued voluntary initiatives that coordinate local government land-use decisions with energy planning. See, e.g., Pac. Gas & Elec. Co., *A Partnership for a Greener San Francisco* 3 (Aug. 2006), https://www.pge.com/includes/docs/pdfs/shared/environment/pge/features/partnership_for_a_greener_san_francisco.pdf [<https://perma.cc/Y77L-MPAG>] (agreement between Pacific Gas & Electric and the City of

also begun to experiment with “community choice aggregation”—a new kind of retail electricity provider that enables customers in certain local communities to choose different energy supply options than the default power supply portfolio offered by the incumbent retail utility.⁹⁵

Most recently, California regulators have adopted a requirement that mandates (as of 2020) the installation of rooftop solar panels on most new family homes and many multi-floor apartment and condominium buildings, with a solar panel size scaled to the floor area of the dwelling unit.⁹⁶ On average, this state-wide solar mandate is expected to add \$9,500 to the cost of each new residential home.⁹⁷ California regulators estimated that, over a thirty-year period, the new requirements would add \$40 on average to a customer’s monthly housing costs, but the average monthly energy savings for each cus-

San Francisco, allowing utility to collect fees from customers to support local distributed solar and energy conservation programs).

⁹⁵ See, e.g., KELLY TRUMBULL ET AL., UCLA LUSKIN CTR. FOR INNOVATION, EVALUATING COMMUNITY CHOICE AGGREGATION ALTERNATIVES FOR THE CITY OF SANTA MONICA 3 (Dec. 2017), <http://innovation.luskin.ucla.edu/sites/default/files/Evaluating%20CCA%20alternatives%20for%20the%20City%20of%20Santa%20Monica%201214171408.pdf> [<https://perma.cc/7GBD-D94P>] (describing community choice aggregators as a way of enabling 100% renewable options for certain customers). Seven states currently allow forms of community choice aggregation. See <http://www.leanenergyus.org/cca-by-state/> [<https://perma.cc/RV72-BBUN>]. While expanding in popularity over the past several years, this approach also has not been without controversy. See Ivan Penn, *Some of California’s Major Utilities are Trying to Block the Growth of Government-Owned Electricity Programs*, L.A. TIMES (Sept. 8, 2017, 5:00 AM), <http://www.latimes.com/business/la-fi-community-choice-utilities-20170908-story.html> [<https://perma.cc/7TU2-CWC7>] (noting private utility efforts to stop the expansion of community choice aggregation, motivated in part by concern that it could unduly burden the incumbent utility’s remaining customers).

⁹⁶ See *Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation*, CAL. ENERGY COMM’N (May 9, 2018), http://www.energy.ca.gov/releases/2018_releases/2018-05-09_building_standards_adopted_nr.html [<https://perma.cc/DV25-ZQ3H>]; see also Julia Pyper, *Everything You Need to Know About California’s New Solar Roof Mandate*, GREENTECH MEDIA (May 21, 2018), <https://www.greentechmedia.com/articles/read/everything-you-need-to-know-about-californias-new-solar-roof-mandate#gs.oMSKHjA> [<https://perma.cc/S8TM-ECXY>] (discussing several questions that have arisen in response to the historic new mandate, and providing a cost-benefit analysis of mandating rooftop solar).

⁹⁷ See *2019 Building Energy Efficiency Standards, Frequently Asked Questions*, CAL. ENERGY COMM’N (Mar. 2018), http://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf [<https://perma.cc/2SBF-N5FR>]; see also Ivan Penn, *California Will Require Solar Power for New Homes*, N.Y. TIMES (May 9, 2018), <https://www.nytimes.com/2018/05/09/business/energy-environment/california-solar-power.html> [<https://perma.cc/9BZ7-LT5N>] (providing that California’s new mandate is expected to add \$8,000–\$12,000 to the cost of a residential home).

tomers would amount to \$80.⁹⁸ Currently, only 15 to 20% of new homes built in California include rooftop solar panels,⁹⁹ so there are some broader societal benefits to this mandate as well: increased overall energy conservation, less pressure on California's power grid, a reduced need for new power supply in the state, and fewer greenhouse gas emissions. California gives builders flexibility in complying with its new requirement, including investing in community solar in lieu of solar panels on individual homes, receiving a 25% credit on solar-panel size for investing in energy storage, or investing in other measures that reduce net energy usage for each building.¹⁰⁰

Energy exactions would complement these recent market and regulatory approaches to recognize customers as energy resources. Local land-use regulation provides a fertile, albeit largely untapped, forum for energy exactions. Local regulators are particularly well-positioned to adopt these kinds of requirements in situations where state utility regulators fail to fully integrate customer resources and energy conservation into the centralized energy-resource-planning process. That is, where state-utility regulators are not planning for a state's future energy needs based on a full social-cost approach, including the costs associated with climate change, addressing the energy impacts of land use at the local level can provide a more complete assessment of how distributed energy resources such as rooftop solar and conservation compare to energy supply resources.¹⁰¹ In contrast to the status quo in most states, such a decentralized approach would better align the costs associated with new land uses with their actual impacts (positive and negative) on the energy system. Additionally, this approach would allow a point of entry for promoting local grid reliability and addressing broader societal concerns about providing decarbonized energy sources. Our proposal is not to replace traditional energy planning, but rather to supplement and improve it. Especially where the status quo utility planning process relegates customer energy resources to the sidelines in approving power supply investment decisions, recognizing mu-

⁹⁸ See *Energy Commission Adopts Standards Requiring Solar Systems for New Homes*, *supra* note 96.

⁹⁹ See Jeff Daniels, *California Regulators Approve Plan to Mandate Solar Panels on New Home Construction*, CNBC (May 9, 2018, 3:08 PM), <https://www.cnbc.com/2018/05/09/california-approves-plan-to-mandate-solar-panels-on-new-homes.html> [<https://perma.cc/WN2A-SH9E>].

¹⁰⁰ See Pyper, *supra* note 96.

¹⁰¹ See Scott F. Bertschi, Comment, *Integrated Resource Planning and Demand-Side Management in Electric Utility Regulation: Public Utility Panacea or a Waste of Energy?*, 43 EMORY L.J. 815, 823-29 (1994).

nicipal governments as a point of entry to bargain with customers over uses of land that affect the energy system better enables customer energy resources to participate in energy planning and energy markets, and can help to produce more efficient investments in the energy system.

II

EXACTIONS AS A NEW POINT OF ENTRY FOR ENERGY PLANNING

As we described in the previous Part, land-use exactions are a general category and not a specific tool. A municipality's specific implementation of an exaction depends in large measure on local infrastructure capacity (i.e., which marginal impacts of development are the most significant); elasticity in housing and rental markets (i.e., who will ultimately bear the costs of the exaction); and community preferences (i.e., which kinds of development the municipality wants to encourage or discourage). As a result, actual implementation of our proposal will vary depending on local conditions.¹⁰² Nevertheless, this Part broadly describes the mechanics of our proposal for energy exactions by local governments and begins to consider how they should be priced. It then explains how the energy exactions we propose contrast with and can improve current energy and land-use planning, and concludes by looking at the politics of our proposal, specifically at its distributional consequences and the likelihood that local governments would adopt it.

A. The Mechanics of Energy Exactions

As we envision them, energy exactions will primarily take the form of a legislated impact fee based upon the anticipated costs of new burdens on energy infrastructure, and the average energy usage for the relevant construction. The former is dynamic and will depend both on the cost of electricity in a given region and the ways in which demand is satisfied in a particular municipality. We consider these details below.¹⁰³ The latter—the average energy usage of new construction—would also

¹⁰² For example, a community focused on the growth of vehicle electrification to displace fossil fuel transportation might emphasize the need for vehicle charging stations. In 2017, Atlanta, Georgia approved an ordinance that makes vehicle charging stations mandatory for new construction. See Katie Pyzyk, *Atlanta Passes Infrastructure Ordinance to Support EV Charging*, SMARTCITIES DIVE (Nov. 22, 2017), <https://www.utilitydive.com/news/atlanta-passes-infrastructure-ordinance-to-support-ev-charging/511557/> [<https://perma.cc/4MYW-BUZG>].

¹⁰³ See *infra* subpart II.A.

vary in predictable ways depending upon climate, building materials, and business or house size. Electricity usage increases significantly as the size of the house increases, for example. According to one study, a 1,600 square foot home will use approximately 9,500 kilowatt hours (kWh) of energy per year.¹⁰⁴ A 6,400 square foot home will use nearly 24,500 kWh per year, and energy consumption scales up nearly linearly.¹⁰⁵ The size of the energy exaction should therefore depend on house size. But those averages also vary by region. While the U.S. monthly average is 911 kWh, there is significant regional variation, with residential property in hotter climates consuming much more electricity.¹⁰⁶ Households in Maine generally use 550 kWh per month, while those in Louisiana use almost 1,300 kWh.¹⁰⁷

Properly aggregated, data about house size, region, building material, and so forth, makes it possible to predict quite accurately the energy usage of any proposed development and then price that increase through an impact fee or other exaction. As a first pass, we envision a set price per kWh of anticipated annual energy usage—for example, \$1—as a one-time exaction charged to the developer as a condition on development.¹⁰⁸ For the average U.S. house, that would amount to roughly \$10,000.¹⁰⁹ However, as with California's new state-wide solar mandate,¹¹⁰ a developer could reduce that impact fee by shrinking the size of the houses or by deploying building techniques and technologies that would reduce the anticipated annual energy demand of buildings in the development.

The most visible investment in energy conservation that a developer can make today is the installation of solar panels.

¹⁰⁴ See Barry Fischer, *America's Energy Distribution: The Top 1% of Homes Consume 4 Times More Electricity than Average (and Why It Matters)*, OPOWER BLOG (Mar. 6, 2013), <https://perma.cc/QZ7H-5X62> (describing the distribution of America's electricity usage).

¹⁰⁵ See *id.*

¹⁰⁶ See Jordan Wirfs-Brock, *How Much Electricity Do You Use Each Month?*, INSIDE ENERGY (May 22, 2014), <http://insideenergy.org/2014/05/22/using-energy-how-much-electricity-do-you-use-each-month/> [<https://perma.cc/TJM8-LMAZ>] (citing 2014 data from the Energy Information Administration).

¹⁰⁷ *Id.*

¹⁰⁸ That number, again, comes from the combined cost of supplying new energy in the relevant local market and the anticipated energy impact of the new construction. For a different approach, a student Note proposed imposing an impact fee based upon LEED certification (and an alternative "Resource Use" pricing), which can roughly track energy and other resource usage. See Kingsley, *supra* note 18, at 555.

¹⁰⁹ This is similar to the estimated cost per home of California's new solar mandate. See *supra* note 97 and accompanying text.

¹¹⁰ See *supra* note 96 and accompanying text.

Installing rooftop solar on each new home in a residential sub-development can dramatically reduce, if not eliminate, any net increase in energy demand from a new development.¹¹¹ Even if not every new residence is able to accommodate rooftop solar panels on a cost-effective basis, a subdevelopment could set aside land to accommodate solar panels and allow each new residence to benefit from community solar. There are also less costly options that can reduce total energy consumption. Installing air-source heat pumps, for example, will save on average 3,000 kWh per year compared to electric heaters.¹¹² Passive solar hot water, where solar panels directly pre-heat hot water, can create tremendous energy savings at low cost.¹¹³ Depending on climate, better insulation produces average energy savings of 11%.¹¹⁴ Insulation is not only for cold-winter climates, but is important for air conditioning, too. Energy-efficient appliances, smaller houses, and other design elements also reduce energy consumption. And, importantly for our proposed energy exactions, these and other innovations in conservation all reduce energy consumption in predictable and quantifiable amounts.

If our hypothetical developer were to invest in some combination of these technologies, the anticipated energy demand of

¹¹¹ Cf. U.S. DEP'T OF ENERGY, BENEFITS OF RESIDENTIAL SOLAR ELECTRICITY, <https://www.energy.gov/energysaver/benefits-residential-solar-electricity> [<https://perma.cc/4JMB-K9UC>] ("A solar electric system provides an opportunity for anyone who is looking to reduce monthly utility bills . . .").

¹¹² See U.S. DEP'T OF ENERGY, AIR-SOURCE HEAT PUMPS, <https://www.energy.gov/energysaver/heat-pump-systems/air-source-heat-pumps> [<https://perma.cc/3C59-FHD7>]; *Air-to-Air Energy Recovery: A Guide to Equipment Eligible for Enhanced Capital Allowances*, CARBON TRUST 3 (Feb. 2014), https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/376188/ECA771_Air-to-Air_Energy_Recovery.pdf [<https://perma.cc/3PFM-8GBA>] (stating that air-to-air heat exchangers approved for tax relief by the United Kingdom government can provide savings of 10 to 20%).

¹¹³ See Steven Hill, Comment, *Windmills, Tides, and Solar Besides: The European Way of Energy, Transportation, and Low-Carbon Emissions*, 43 ENVTL. L. REP. NEWS & ANALYSIS 10,102, 10,105 (2013) ("Solar water heating . . . is enjoying a resurgence, using passive solar panels . . . to heat pipes of circulating water for hot showers, dishwashing, and laundry, reducing water heating bills by 75%."); Nancy E. Shurtz, *Eco-Friendly Building from the Ground up: Environmental Initiatives and the Case of Portland, Oregon*, 27 J. ENVTL. L. & LITIG. 237, 257 (2012) ("[E]nergy demands may be reduced by maximizing passive solar design techniques to provide for heating and cooling.").

¹¹⁴ See *Methodology for Estimated Energy Savings from Cost-Effective Air Sealing and Insulating*, ENERGY STAR, https://www.energystar.gov/index.cfm?c=home_sealing.hm_improvement_methodology [<https://perma.cc/P8AB-2LWC>] (stating that homeowners can save an average of 11% on total energy savings through home sealing and insulation and providing a regional breakdown of average energy savings).

new dwellings might be cut in half, from 10,000 kWh per year to 5,000 kWh. And so, the resulting energy exaction could also be reduced, from \$10,000 to \$5,000, or perhaps eliminated altogether if the developer can show that a new dwelling is net zero in its energy system impact (i.e., that it will produce at least as much energy as it uses). The power of our proposal is that local land-use officials do not need to specify or require any particular technology in new development. This is not a local version of California's requirement to install solar panels, but is instead more flexible. By pricing the marginal increase in energy demand, developers will have an incentive to reduce energy consumption to the extent that it is cost-effective to do so. Depending on local conditions and how the energy exactions are priced, some developers might seek to build zero-energy homes, whereas others might adopt only the most cost-effective technologies and pay the exaction for the rest.

Similarly, municipalities rarely pay any attention to the energy needs that new business or commercial activities will generate. By pricing the marginal increase in energy demand by new business and commercial activities, local land use regulators would encourage more efficient energy usage and could promote deployment of cost-effective technologies. If local regulators assessed the price on the activity itself, new business and commercial activities would not be allowed to "externalize" energy resource costs to the larger footprint of a utility's full customer resource base, but would be forced to take these costs into account in making their own local investments in plant, warehouse, or retail facilities.

The implementation of our proposal is therefore quite straightforward. Like an impact fee, we propose that local land-use officials adopt a price per kWh that developers or new business or commercial activities must pay in order to secure final approval for their developments. The price would be based on the combination of anticipated energy usage per square foot in that region, taking into consideration the marginal cost of meeting new energy needs for the relevant utility. If the developer is proposing to adopt technologies reducing energy impacts, the developer must offer empirical support for the extent of the energy reductions.¹¹⁵ And if some of the ap-

¹¹⁵ One notable aspect of this proposal is the way in which it shifts the traditional burden of establishing the pricing for exactions. John D. Echeverria, Koontz: *The Very Worst Takings Decision Ever?*, 22 N.Y.U. ENVTL. L.J. 1, 53 (2014) (noting that "under *Nollan* and *Dolan* the government bears the burden of proof."). While the government will still bear the burden of justifying the price for the

proaches have a lifespan—like the use of energy-efficient appliances that will ultimately be replaced—developers should be required to place restrictive declarations on the deeds requiring that replacements meet certain energy benchmarks.¹¹⁶

Where developers ultimately pay some amount in impact fees, the local government can then use that money to minimize energy impacts in other places within the municipality. Indeed, as we argue below, the Constitution may even require the government to use the funds it collects for energy mitigation. This might include grants to owners of existing buildings to increase their energy efficiency, deployment of net metering systems, or adoption of community solar, to name just some examples. Properly priced, new development will ultimately not increase energy demand (and hence the need for new energy supply) for the municipality as a whole.

An alternative form of exaction can be implemented through a “concurrency” regime.¹¹⁷ In the land-use context, concurrency commonly refers to a program of phased growth controls to ensure that development does not outpace infrastructure expansion.¹¹⁸ In broad strokes, concurrency requires a municipality to pre-specify anticipated increases in infrastructure capacity over time.¹¹⁹ It then limits the number

exaction, the developers will bear the burden of proving the energy savings in their development.

¹¹⁶ See *Buildings Bulletin 2015-008*, *supra* note 51 (describing deed restrictions). Enforcement of such restrictive declarations can be complicated, so the imposition of such declarations may not be worth the candle. Regardless, the anticipated energy savings over the course of the average appliance’s lifespan will likely be significant enough to justify including in the calculation of annual energy savings.

¹¹⁷ The term “concurrency” comes from computational science and refers to the notion that several simultaneous computations can have interactive costs and benefits for an information processing system. See Xuan Shi & Miaoqing Huang, *Cyberinfrastructure and High Performance Computing*, in *COMPREHENSIVE GEOGRAPHIC INFO. SYS.* 341, 349 (Bo Huang, ed. 2017); see also Leslie Lamport, *Turing Lecture: The Computer Science of Concurrency: The Early Years*, *COMMUNIS OF THE ACM*, June 2015, at 71, <https://cacm.acm.org/magazines/2015/6/187316-turing-lecture-the-computer-science-of-concurrency/fulltext> [<https://perma.cc/PT9H-SFSH>] (discussing the significance of concurrency for computer science).

¹¹⁸ In land-use law, concurrency typically takes the form of adequate public resource requirements as a condition to zoning approval, typically for transportation, water, schools, and parks. See S. Mark White & Elisa L. Paster, *Creating Effective Land Use Regulations Through Concurrency*, 43 *NAT. RES. J.* 753, 754–57 (2003).

¹¹⁹ Kacie A. Hohnadell, Note, *Community Planning Act: The End of Meaningful Growth Management in Florida*, 42 *STETSON L. REV.* 715, 724–25 (2013) (“The concurrency provisions required local governments to adopt ‘level-of-service’ standards for public facilities, schools, and roads that must have been met before any development could proceed.”).

of building permits per year so as to keep pace with planned infrastructure expansion.¹²⁰ A developer, however, can accelerate that clock by funding the infrastructure expansion directly.¹²¹ This involves paying pre-specified costs to build out roads, water, and sewer.¹²² In effect, developers are then paying for the marginal increase in infrastructure demand beyond what the municipality originally planned.

This could be applied in exactly the same way to energy. A municipality would first plan for some reasonable increase in energy demand, and then limit new development to ensure that net demand does not exceed this slowly expanding capacity. A developer wanting to accelerate a project would have two different options that would work together or separately. As with conventional concurrency, the developer could pay to accelerate the expansion of energy capacity, or the developer could reduce the energy demand associated with the new project. Obviously, the more the developer invests in energy savings, the less the developer would have to pay for increased infrastructure burdens.

Concurrency is quite similar to the straightforward impact fees described above, but adds flexibility by anticipating increases in energy demand that will not be subject to exactions. It builds in an expectation of some infrastructure expansion and so does not require newcomers to shoulder all the costs of increased capacity. It only requires fees—or delays—for growth beyond the pre-specified annual limits. Notice, however, those limits are not the product of today's passive exercise predicting increases in energy demand. They are at least partly normative. A municipality can decide what is a reasonable expansion

¹²⁰ See, e.g., Local Government Comprehensive Planning and Land Development Regulation Act, ch. 85-55, 2018 Fla. Laws 295 (codified as Fla. Stat. §§ 163.3161–163.3215 (2018)); see also Thomas G. Pelham, *From the Ramapo Plan to Florida's Statewide Concurrency System: Ramapo's Influence on Infrastructure Planning*, 35 URB. LAW. 113, 113–14 (2003) (describing Florida's growth management system, which is one of the most comprehensive in the United States); DOUGLAS R. PORTER, *MANAGING GROWTH IN AMERICA'S COMMUNITIES* 147–78 (2d ed. 2008) (discussing strategies for supporting growth by managing infrastructure development).

¹²¹ See Hohnadell, *supra* note 119, at 726–27 (2013) (“If established facilities were not in place or at the appropriate level, a developer would not be permitted to build unless the developer could pay the entire amount to maintain the level of service. ‘In other words, the last one in after service capacity is exhausted, pays the total bill.’”) (quoting Robert M. Rhodes, *Florida Growth Management: Past, Present, Future*, 9 FLA. COASTAL L. REV. 107, 118 (2007)).

¹²² See, e.g., *id.* at 725 (“In effect, the concurrency system required developers to help pay for the facilities, schools, and roads needed to accommodate the growth generated by their projects so that local governments would not be stuck footing the entire bill.”).

of energy demand—the demand for which it then plans—instead of treating demand as entirely exogenous.

In either form, energy exactions might seem to rely too heavily on decentralized customer decisions to promote energy conservation and clean energy goals. However, if developers were incentivized to internalize some of these costs, this could produce enormous benefits when aggregated at the municipal level. For example, this would encourage developers to participate in local energy supply resources such as community solar, promoting these kinds of shared energy supply opportunities.

Another important consequence of our proposal may be the least obvious. One way of thinking of energy savings is as what Amory Lovins has cleverly coined a “negawatt”—a unit of energy that no longer needs to be produced due to a reduction in demand represented by conservation.¹²³ Lovins was not the first to recognize this; as the visionary urban planner Lewis Mumford wrote in 1961, “demand may be made at any point in the [electric power] system, and the system as a whole may be drawn on to respond to it,” but ultimately “it is the local user who determines when it shall be used and how much shall be taken.”¹²⁴ So it would seem uncontroversial for both energy law and urban planners to recognize that a kilowatt of energy saved is a kilowatt of energy that no longer needs to be produced.

Energy exactions can incent new forms of economic value surrounding energy conservation. In many areas of the country, energy intermediaries already bundle and sell into interstate energy markets the energy savings produced by pools of customers.¹²⁵ Developers or municipalities could operate in precisely the same way, not only raising money through the exactions themselves but also potentially selling the energy resources resulting from increased conservation to utilities. Large developers who are positioned to aggregate energy savings may be able to sell demand response resources into the interstate wholesale market, where they can offer savings to adjacent utilities in their region. Alternatively, municipal regulators or city governments may be positioned to aggregate indi-

¹²³ See Amory B. Lovins, *The Negawatt Revolution*, 27 ACROSS THE BOARD, Sept. 1990, at 18, 22 (1990), https://www.rmi.org/wp-content/uploads/2017/06/RMI_Negawatt_Revolution_1990.pdf [<https://perma.cc/69SG-UZRX>].

¹²⁴ LEWIS MUMFORD, *THE CITY IN HISTORY: ITS ORIGINS, ITS TRANSFORMATIONS, AND ITS PROSPECTS* 565 (1961).

¹²⁵ See FED. ENERGY REGULATORY COMM’N, STAFF REPORT, ASSESSMENT OF DEMAND RESPONSE AND ADVANCED METERING (2016), <https://www.ferc.gov/legal/staff-reports/2016/DR-AM-Report2016.pdf> [<https://perma.cc/GC9V-FYAS>].

vidual customer savings and sell these resources to others. Ultimately, energy exaction holds potential to enable developers, neighborhood alliances, and localities to become players in energy supply markets, without requiring ownership of a large-scale energy supply system or the burdensome cost a locality needs to incur to become a municipal utility.¹²⁶

B. Informational Benefits for Regulators and Markets

Whether through impact fees or concurrency requirements, energy exactions give local governments a way to supplement the conventional approach to pricing energy with new fees—an approach that can produce valuable new information to improve existing approaches to energy planning and pricing. We begin from the premise that optimal energy prices for various uses must recognize the marginal impact of each additional kWh of energy demand on the energy grid. Established approaches to pricing of energy, as determined through traditional utility regulation, fail to do this. Exactions allow land-use regulators to add fees on to various land-use approvals in a manner that can correct for some of the informational deficiencies that plague traditional energy planning and rate setting—though, as we also recognize, identifying an accurate “price” for energy exactions produces its own challenges.

In theory, efficient investments in energy supply should be made only where additional customers truly require them. Competitive interstate energy markets that buy and sell large quantities of energy in bulk supply electricity for nearly two-thirds of the U.S. population.¹²⁷ However, the full social costs associated with energy (including the cost of carbon) are notably absent from most competitive energy prices.¹²⁸ If genuinely competitive, these interstate markets should price energy at (or very close to) its marginal cost of production and levels of investment in energy infrastructure should reflect this pricing criterion.

Even where competitive interstate power supply markets exist, however, state regulators serve the role of approving new

¹²⁶ See *infra* notes 193–195 and accompanying text (discussing municipal utilities).

¹²⁷ See *Electric Power Markets: National Overview*, FED. ENERGY REGULATORY COMM’N, <https://www.ferc.gov/market-oversight/mkt-electric/overview.asp> [<https://perma.cc/R2Q6-NGN8>] (explaining that two-thirds of the nation’s electricity is served in regions with regional transmission organizations).

¹²⁸ For discussion of the general issue, see Emily Hammonde & David B. Spence, *The Regulatory Contract in the Marketplace*, 69 VAND. L. REV. 141, 192–214 (2016).

power plants and most state regulators also continue to engage in some form of price regulation for customers, setting retail rates based on cost-of-service principles. With traditional energy pricing, regulators aim to maximize social welfare by encouraging a utility (in effect, a regulated monopolist) to produce a quantity of power that is as close as possible to what a competitive market would produce.¹²⁹ Thus, regulators evaluating the prudence and pricing of a regulated utility's investment decisions gauge its efficiency primarily with reference to how close it is to marginal cost.¹³⁰

According to Judge Richard Posner, this "cost causation" principle requires a utility to show that the benefits to customers are not trivial in relation to the costs a regulator's rate imposes on them.¹³¹ Admittedly, determining the impact each customer has on energy supply is complicated. Judge Posner himself has reminded courts that it is an elusive pricing criterion for competitive interstate power markets and that in reviewing utility rates courts should not expect federal regulators to quantify benefits with exacting precision, to the last penny or, in cases of large investments, even to the last million dollars.¹³² At most, the cost causation principle is only a general guidepost for regulators and an even weaker criterion for a court to use in evaluating whether rates in competitive power

¹²⁹ See MICHAEL A. CREW & PAUL R. KLEINDORFER, *THE ECONOMICS OF PUBLIC UTILITY REGULATION* 13–16 (1st ed. 1986) (outlining arguments in favor of marginal cost pricing for electric utilities).

¹³⁰ See, e.g., STEPHEN J. BROWN & DAVID S. SIBLEY, *THE THEORY OF PUBLIC UTILITY PRICING* 23–35 (1986) (discussing the efficient pricing of regulated firms); ALFRED E. KAHN, *THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS* 77–83 (1970) (calculating marginal costs where the majority of costs are common).

¹³¹ *Ill. Commerce Comm'n v. FERC*, 576 F.3d 470, 476 (7th Cir. 2009) (holding that "FERC is not authorized to approve a pricing scheme that requires a group of utilities to pay for facilities from which its members derive no benefits, or benefits that are trivial in relation to the costs sought to be shifted to its members").

¹³² *Id.* at 477.

markets are just, reasonable, and nondiscriminatory,¹³³ rather than a rigorous constitutional standard of review.¹³⁴

If marginal cost is not a precise pricing criterion for competitive energy markets, aiming to price energy supply based on marginal cost is even more difficult in a monopolistic setting, such as when a regulator sets a utility's rates based on cost of service. Setting the correct rate level for a utility based on cost of service is a challenge, and can easily produce windfalls and distort investment incentives. A common criticism of utility ratemaking is that it suffers from informational problems and, at the extreme, even promotes strategic behavior by regulated firms.¹³⁵ As with any approach to modeling, the accuracy of the inputs regarding customer demand will be crucial to optimizing investment decisions.¹³⁶ Put simply, a utility's overall rate level (sometimes called its "rate base") will only be as accurate as the data submitted to regulators in setting it, and a utility seeking rate recovery may seek to manipulate regulators by lobbying for its proposals, as well as by presenting misleading information or strategically withholding information.¹³⁷ The public choice account of rate regulation, as producing concentrated benefits (for regulated firms and their investors) and spreading them broadly among customers,

¹³³ For example, sections 205 and 206 of the Federal Power Act require rates to be set at a level that is just, reasonable, and nondiscriminatory. See 16 U.S.C. §§ 824d, 824e. Most states subject utility ratemaking to similar standards. Despite use of this guidepost to reject an agency rate approval, even Judge Posner sees regulator approval of public utility rates as subject to a high level of judicial deference under statutes, much like other agencies' decisions involving complex issues and agency expertise. See *Ill. Commerce Comm'n*, 576 F.3d at 478 (reversing FERC's approval of a rate, but observing "we require only that the agency have made a reasoned decision based upon substantial evidence in the record," which was lacking (quoting *Town of Norwood v. FERC*, 962 F.2d 20, 22 (D.C. Cir. 1992))).

¹³⁴ For discussion of the deferential approach modern courts have adopted in constitutional review of utility rates, see *infra* notes 211–212 and accompanying text.

¹³⁵ See CARL PECHMAN, *REGULATING POWER: THE ECONOMICS OF ELECTRICITY IN THE INFORMATION AGE* 44–45 (1993).

¹³⁶ See, e.g., Michael Wara, *Instrument Choice, Carbon Emissions, and Information*, 4 MICH. J. ENVTL. & ADMIN. L. 261, 280–81 (2015) (observing a systemic bias in overestimating customer demand growth under existing utility planning models used by federal regulators).

¹³⁷ Importantly too, utility ratemaking is subject to a regulatory lag problem. Changes in utility prices are not necessarily linear over time, and there are likely to be significant plateaus in prices over time when marginal demand can be satisfied by existing supply, with sudden jumps in cost when increases in demand have become significant enough to necessitate new capital investments, like building a new power plant. At best, this leads to customer energy prices that lag behind the actual incurrence of costs by a utility (since the calculation of rates is typically based on a forecast of costs for a test year).

views full cost ratemaking as a form of rent seeking. Not surprisingly, economists have recognized that utility cost-of-service ratemaking can invite systematic inflation of utility rate base and sometimes produces overinvestment in centralized power-supply capacity.¹³⁸ Regulators thus strive endlessly to keep a utility's profits in check during ratemaking. Notably too, cost-of-service rates fail to fully reflect the social costs associated with power supply, since ratemaking focuses primarily on the utility's financial costs and few states consistently require utilities to internalize the carbon or other environmental costs associated with energy production.

In rate setting, regulators not only struggle to estimate accurately a utility's overall financial cost, but they lack good information about the marginal cost of production associated with each customer. Therefore, they do a poor job of setting the kinds of prices that produce the information necessary for efficient energy consumption. It may be theoretically appealing to aim to set each customer's energy prices at the marginal cost of production, but unlike a competitive market's prices, regulators are unable to gather the information necessary to effectively use marginal cost pricing in setting rates: Regulators do not have this information for every customer and, even if they did, pricing energy at marginal cost where average costs are declining would drive the utility out of business.¹³⁹ In attempting to approximate the output of a competitive market, regulators thus typically calculate rates based on full operational costs, averaging these across all customers. This means that utility rates are more likely to reflect a utility's average cost of production, rather than marginal costs. In allocating these costs, most rate regulators allow for limited forms of price discrimination, such as different rates for residential, commercial, and industrial customers,¹⁴⁰ but these are crude and vary from

¹³⁸ See Averch & Johnson, *supra* note 70, at 1059.

¹³⁹ For discussion of the problem of pricing a utility's output based on marginal cost where average costs are declining, see R.H. Coase, *The Marginal Cost Controversy*, 13 *ECONOMICA* 169, 173-74 (1946), defending a two-part pricing mechanism as a way of addressing this problem. See also William Vickrey, *Some Implications of Marginal Cost Pricing for Public Utilities*, 45 *AM. ECON. REV.* 605, 605 (1955) (noting that "the principle of marginal cost pricing is not in practice to be followed absolutely and at all events, but . . . [only] insofar as [it] is compatible with other desirable objectives," including concerns with fairness and equity).

¹⁴⁰ What is known as "Ramsey pricing" sets the rate for each customer class based on a price markup above marginal cost that is inverse to that group's demand elasticity. Generally, the greater the ease of a customer finding a substitute for purchasing power from a utility as prices rise, the closer to marginal costs that customer pays. Allowing limited price discrimination based on demand elasticity across various customer classes allows a utility to collect the revenues it

marginal costs. In setting rates, regulators also consider a variety of other goals too, such as ensuring that the lowest income and least mobile customers with the fewest substitutes are not left paying the highest energy rates.¹⁴¹ Utility regulators therefore are reluctant to create too many distinctions between customers in rates, and deviations from marginal cost pricing are commonplace. Flat rates for groups of customers and customer rates that fail to vary based on power supply are quite common, but these leave customers limited information about the true cost of increased energy usage during times of peak consumption and little incentive to change their demand behaviors.¹⁴² The lack of variation in the retail energy prices also produces no information about alternatives customers may have to consuming power, including reducing demand or investing in alternative sources of energy supply, which can hobble regulatory planning and contributes to regulator error in estimating customer load.

Marginal cost pricing is also a challenging endeavor for local governments as they set exactions for traditional public goods. Consider schools, for example. Developers in a number of states are often required to pay impact fees for the burden a new development will place on public schools.¹⁴³ If the anticipated number of students falls within existing school capacity, a development's impact will be only the marginal per-pupil cost of each student. But if a development—or, collectively, a num-

needs to cover costs in a manner that maximizes overall social welfare by maximizing the sharing of costs for capital investments. See F.P. Ramsey, *A Contribution to the Theory of Taxation*, 37 *ECON. J.* 47, 58–59 (1927). For an insightful discussion of the challenges with the approach to setting utility rates based on cost, see Andrew P. Morriss, *Implications of Second-Best Theory for Administrative and Regulatory Law: A Case Study of Public Utility Regulation*, 73 *CHI.-KENT L. REV.* 135, 169–84 (1998).

¹⁴¹ Importantly too, applying the Ramsey principle to customer rate allocation also assumes that energy markets are either perfectly monopolistic or perfectly competitive, so the distortions of “mixed” markets can impede its ability to generate a quantity and price result that maximizes social welfare.

¹⁴² For discussion, see Vandenberg & Rossi, *supra* note 12, at 1535–44.

¹⁴³ See, e.g., Clancy Mullen, *National Impact Fee Survey 2008* (Duncan Associates, 2008), http://www.impactfees.com/publications%20pdf/2008_survey.pdf [<https://perma.cc/UHL8-TYHF>] (identifying jurisdictions imposing impact fees for schools). But see Michele L. LeFavre, Annotation, *Validity, Construction, and Application of School Impact Fee Statutes or Ordinances*, 16 *A.L.R.* 6th 289, 289 (2006) (collecting cases challenging school impact fees); Anne M. Means, *The Necessity of School Impact Fees to Create A Better Community for All Sectors of Society*, 34 *J.L. & EDUC.* 485, 488 (2005) (“Colorado was the first state that did away with school impact fees in 1996 and little attention was paid to this new policy across the nation.”); Rosenberg, *supra* note 1, at 248 (“School impact fees have been particularly controversial and courts have been unwilling to stray beyond the precise permission accorded by state legislation.”).

ber of developments—will necessitate building another school building, then the cost goes up substantially. It is nevertheless possible to build these capital costs into the impact fees by, in effect, amortizing them over all students.¹⁴⁴ Similarly, here, the marginal cost of each kWh is the sum of the marginal cost of production, plus a share of the capital costs necessary to meet demand for that customer.

In contrast to utility rates, however, land use exactions typically concentrate the imposition of costs (rather than spread them as broadly as possible) for purposes of producing community benefits. In this sense, energy exactions may be even better equipped to produce the kinds of information necessary for efficient pricing of certain public goods—especially those that utility ratemaking systematically under-produces due to diffuse, and often broadly realized, benefits. To take one example, under the traditional ratemaking process utilities have done a poor job of making investments that address the negative environmental attributes of various energy sources associated with climate change—a problem which, if addressed, could produce societal benefits beyond the utility's customer footprint.¹⁴⁵ Absent a full social cost pricing approach (which few states have even considered), traditional utility planning and ratemaking simply does not reward utilities for making these kinds of investments. Rather, utilities

¹⁴⁴ A typical school impact fee ordinance will allow a municipality to charge a fee representing the costs that new development will impose on the system as a whole, often consistent with a capital development plan. The fee is not designed to cover ongoing per-student operating costs for the school district. See, e.g., AUBURN, WASH., CODE § 19.02.030 (2011), <http://www.codepublishing.com/WA/Auburn/html/Auburn19/Auburn1902.html#19.02.030> [<https://perma.cc/NU6F-42TP>] (authorizing school impact fees for “system improvements that are reasonably related to the new development”); ORANGE COUNTY, FLA., CODE § 23-143(b), https://library.municode.com/fl/orange_county/codes/code_of_ordinances?nodeId=PTIORCOCO_CH23IMFE_ARTVSCIMFE [<https://perma.cc/BBF4-2EHR>] (“The monies deposited into the school impact fee trust account shall be used solely for the purpose of providing growth-necessitated capital improvements to educational plants and ancillary plants of the school system which are approved by the school board in its capital improvements budget consistent with the state school plant survey”); *School Impact Fee Project*, WILLIAMSON CTY., TENN., <https://www.williamsoncounty-tn.gov/1663/School-Impact-Fee-Project> [<https://perma.cc/EAY2-ZHH2>] (describing different methods of calculating impact fees, and including one in which “[t]he improvements are identified by a facility plan and development is identified by a land use plan. In this method, the total cost of relevant facilities is divided by total demand to calculate a cost per unit of demand”).

¹⁴⁵ Remedying this problem is one of the motivating intuitions behind Byrne & Zyla's work. See Byrne & Zyla, *supra* note 3, at 758 (“Monetary exactions are [a] common tool that can force developers to mitigate the climate costs of new development.”).

commonly face a tradeoff between, on the one hand, increasing sales revenues by making investments with concentrated benefits (in terms of financial payoffs to investors) such as centralized power plants and, on the other, promoting alternative resources such as distributed solar panels or energy storage devices—which may be owned by customers or third parties. To the extent the utility planning and ratemaking process does not require utilities to quantify the social cost impacts of customer activities that require energy, it will tend systematically to favor the investment that increases its sales, not the investment that produces more diffuse benefits for society.¹⁴⁶

Importantly too, in contrast to utility ratemaking (which addresses a monopolistic market), the market for various uses of land is more likely to be competitive and thus may be better suited to variations in pricing that genuinely reflects the incremental energy impacts of new uses of land.¹⁴⁷ As set today, utility rates do not systematically consider customer alternatives to energy consumption at the local level, as utilities face little or no incentive to present this information to regulators in setting a rate level or in crude residential classifications in rate allocation. And the utility planning process fails too to incorporate fully this kind of customer demand information.

Municipal exactions aim directly at the marginal energy impacts of each new land use, so they are better suited than state-centered utility planning to encourage discussions of locally motivated expansions in energy demand and their alternatives. A local land-use exactions approach favors a true assessment of marginal cost of new customer energy usage in ways that are not limited to the utility's financial costs. Exaction fees for different forms of development can produce valuable information about the various options new customers face, including how much energy they will consume, when they will need it, and whether they can commit to reducing demand for it or investing in distributed energy resources such as solar panels or energy storage. It is thus more likely than traditional utility planning to produce information and lead to assessment of the potential for demand reduction and new energy resource opportunities at the local level—opportunities that may be ignored entirely in conventional utility planning. If the ultimate

¹⁴⁶ There are exceptions for utilities seeking to allocate the costs of expanding distribution lines, as we discuss *infra* at subpart III.B.

¹⁴⁷ Cf. Rosenberg, *supra* note 1, at 211–13 (discussing how elasticity in local housing markets affects how much of the cost of exactions can be passed on to consumers).

goal of an energy market is to align customer prices with a social cost measure of customer energy impacts, including the full system costs and carbon costs associated with locally motivated expansions in energy demand, it will also help to induce more efficient energy investment decisions than relying entirely on inaccurate investment signals produced by cost-of-service regulation.

For political economy reasons, one might look skeptically at local governments as even more susceptible than utility regulation to forms of mischief, manipulation, and capture in setting energy exaction prices and using the revenues that they produce. However, as we discuss below, in the most extreme cases constitutional and statutory doctrines of land-use law can also help to safeguard efficiency and social welfare in the pricing of energy exactions.¹⁴⁸

C. Risk Diversification and Regulatory Competition

Traditional utility ratemaking allows regulated utilities and their investors to capture rents from customers, leading to inefficient energy supply investments and various forms of resource overcapacity, especially for centralized power plants.¹⁴⁹ By contrast, the approach we are advocating would invite a municipal government to capture a portion of what otherwise would be considered a utility's rate base by reducing the demand curve and so minimizing new energy requirements. This would help to address a classic public-choice problem with cost of service ratemaking, while also producing local revenue. Beyond producing better information for regulators and markets, we see two significant benefits to this: better risk diversification in energy infrastructure investments and improved intergovernmental competition.

In contrast to traditional energy planning, energy exactions will favor a more decentralized approach to cost allocation by forcing developers and the ultimate housing and business consumers—i.e., energy customers—to bear costs of new energy supply resources.¹⁵⁰ By distributing the risks of new investments related to energy supply, this kind of approach can help to break through some of the asset lock-in related to centrally planned utility energy supply. For example, encouraging in-

¹⁴⁸ See *infra* subpart III.C.

¹⁴⁹ See Averch & Johnson, *supra* note 70, at 1066–67; Pierce, *supra* note 71, at 502.

¹⁵⁰ The extent to which developers will pass the costs of exactions on to end consumers is considered *infra* at notes 161–174 and accompanying text.

vestment in distributed customer energy resources helps to meet power supply and system reliability needs associated with demand growth, without burdening all of a utility's existing customers. In this sense, energy exactions help to assure that the risks associated with infrastructure investments for customer growth in certain geographic areas are borne by those who are most likely to benefit, i.e., new developments. Diversifying the financial risks of investment in energy infrastructure is also likely to help improve the energy resource balance in the power supply portfolio and improve reliability through greater grid resiliency.

A local government's initiative in setting energy exactions promises to improve intergovernmental competition too—an advantage that local energy exaction may hold over a statewide requirement such as California's rooftop solar mandate. Most obviously, encouraging local governments to adopt their own forms of energy exactions would spark greater horizontal competition around energy resources and their development between local communities. A municipality that adopts our approach should see energy prices for incumbent users decline as the costs of capital, system-wide improvements will be borne more by newcomers. If those costs take the form of "negawatts"—i.e., demand savings—then everyone in the municipality or service area should benefit by reducing the overall costs of energy, providing a competitive advantage over other municipal areas.

As significant in our view, local forms of energy exactions should increase vertical intergovernmental competition between municipal governments and state-utility regulators. Exactions will produce some combination of energy savings and actual fees. Any fees a municipality collects from energy exactions can—and, if our proposal is to avoid increasing (rather than decreasing) energy demand associated with growth, must—be used to produce energy savings elsewhere in the municipality. This would effectively allow a local government to capture a portion of rents that would otherwise be recovered in a utility's base rate. If a utility wishes to keep these rents, rather than lose them to local governments, it will lobby regulators to adopt exactions for new development in utility rates or in statewide requirements such as California's rooftop solar mandate. To the extent that local energy exactions present state regulators with new information about the feasibility and benefits of local energy exactions, this can help to improve the quality of centralized planning and make it less likely that reg-

ulators will adhere to utility ratemaking approaches that fail to recognize the benefits of customer energy resources.

D. The Local Case for Energy Exactions

The discussion so far has made the case that energy exactions could have many structural benefits. They would produce the kind of information needed to properly incentivize energy conservation in the design and building of new developments. The resulting marginal cost pricing would encourage greater diversification in the risks of investing in new energy supply. And they would unleash new forms of regulatory competition, partly by allowing developers and local governments to become players in energy markets, enabling them potentially to sell energy resources in the form of bundled energy savings. But why would a local government implement our proposal? The political case for energy exactions requires a closer look at the incentives faced by local governments.

At first blush, the answer seems obvious. Energy exactions would help to control energy costs by forcing developers to shoulder more of the burdens of increased energy demands. Moreover, they would provide an additional source of revenue from the development process, to the extent a developer pays the fees instead of producing net zero buildings. Energy exactions therefore have a strong intuitive appeal. There is, however, an equally strong countervailing intuition. Although not legally a tax in most jurisdictions, an exaction is nevertheless the functional equivalent of a tax on development.¹⁵¹ And as a tax, the effect will be to raise the cost of construction in a municipality that adopts energy exactions vis-à-vis a neighboring municipality that does not. The predictable effect will be to shift new development to other municipalities, at least on the margin.¹⁵² For local officials pursuing mobile capital, this dynamic might make energy exactions a tool that is better suited to statewide rather than local regulation, or perhaps only a tool in theory.

¹⁵¹ Compare, e.g., *Home Builders Ass'n of Lincoln v. City of Lincoln*, 711 N.W.2d 871, 876–79 (Neb. 2006) (holding that impact fees are not taxes requiring state approval), with *Mayor & Bd. of Aldermen of Ocean Springs v. Homebuilders Ass'n of Miss.*, 932 So.2d 44, 53 (Miss. 2006) (rejecting power of local government to impose impact fees without express authorization). For a helpful overview of the issue, see W. Andrew Gowder, Jr. & Bryan W. Wenter, *Exactions and Impact Fees 2007: The Limits of Local Authority*, 39 URB. LAW. 645, 646–53 (2007).

¹⁵² This is a substantial political constraint on local governments imposing exactions. For a detailed account, see Been, *supra* note 35, at 506–28.

These competing intuitions reflect a deep tension within land-use regulations more broadly. Indeed, this equivocation about energy exactions exists with exactions in any form; they all raise the cost of development and so would appear to put a municipality at a disadvantage vis-à-vis its neighbors in attracting new investments. There is nothing unique about energy exactions in this regard. If exactions of any kind grow too high, developers will simply move elsewhere. Competition between local governments will therefore constrain the extent of exactions to some extent.¹⁵³ Nevertheless, exactions remain a common part of the development landscape, and local governments use them despite (or sometimes because of)¹⁵⁴ the fact that they increase the costs of development relative to municipalities that do not impose exactions. Their appeal, however, may depend on the political landscape in any particular municipality.

Local governments do not all have the same incentives. At the simplest level, they are arrayed along a spectrum from pro-development to anti-development.¹⁵⁵ The former are typically controlled by the “growth machine,” which includes that constellation of businesspeople that make up the development industry broadly.¹⁵⁶ Developers themselves, but also realtors, lawyers, and builders, all tend to favor development and are often its aggressive champions.¹⁵⁷ On the other hand, anti-development jurisdictions—what William Fischel has called “Homevoter” jurisdictions—are controlled by in-place local homeowners who view new development as competition for ex-

¹⁵³ See *id.*

¹⁵⁴ Driving up the cost of development can be appealing to local governments seeking to restrict growth and limit the supply of new housing, often in the service of Not-in-My-Backyard (“NIMBY”) pressures towards exclusionary zoning. See, e.g., Christopher Serkin & Leslie Wellington, *Putting Exclusionary Zoning in its Place: Affordable Housing and Geographical Scale*, 40 *FORDHAM URB. L.J.* 1667, 1669–73 (2013).

¹⁵⁵ Cf. Vicki Been et al., *Urban Land-Use Regulation: Are Homevoters Overtaking the Growth Machine?*, 11 *J. EMPIRICAL LEGAL STUD.* 227, 228–38 (2014) (describing different theories of local politics and finding support for a “homevoter-based theory” even in cities).

¹⁵⁶ See, e.g., JOHN R. LOGAN & HARVEY L. MOLOTCH, *URBAN FORTUNES: THE POLITICAL ECONOMY OF PLACE* 32 (1987) (discussing cities as “growth machines” and discussing how increased rents create wealth for certain members of society); Harvey Molotch, *The City as a Growth Machine: Toward a Political Economy of Place*, 82 *AM. J. SOC.* 309, 309 (1976) (analyzing cities as “growth machines”).

¹⁵⁷ Christopher Serkin, *Insuring Takings Claims*, 111 *NW. U. L. REV.* 75, 117 (2016) (“Conventional wisdom holds that cities are growth machines, in the thrall and political control of development interests—builders, construction workers, realtors, bankers, and so forth.”).

isting housing stock.¹⁵⁸ Their interests tend to favor restricting the supply of new housing in order to protect the value of their own homes.¹⁵⁹

Growth-machine jurisdictions will presumably find little to like in the proposal for energy exactions. To the extent it puts the municipality at a competitive disadvantage for attracting new development, the proposal will garner little support. But in-place homeowners may well have a different view. As we have explained above, by default the current cost-of-service pricing regime spreads the marginal costs of development over the entire utility customer base.¹⁶⁰ The cost of new energy production necessitated by development will end up costing in-place consumers more money in the form of higher energy bills. Shifting those costs to newcomers shields existing consumers from them, making energy exactions appealing in municipalities where local homeowners are a dominant political force.

Exactions' appeal will depend in large part on who actually bears their ultimate cost. There are three likely possibilities, depending on elasticity in local housing markets.¹⁶¹ Most obviously, costs may be borne by the developers themselves who pay the exaction out of pocket. But those costs may ultimately be passed on to the end consumers in the form of higher prices for the housing.¹⁶² Or the costs may be absorbed into vacant land values, effectively reducing what developers are willing to pay because of the higher costs of construction.¹⁶³ Local economic conditions and the availability of substitute municipalities with different pricing will determine where the costs of energy exactions will ultimately fall.¹⁶⁴ As a result, the politics of energy exactions will be intensely local. Even growth-machine jurisdictions could embrace energy exactions if the costs can be passed on to the end customers.

¹⁵⁸ FISCHEL, *supra* note 50, at 14–16; *see also* Vicki Been, *City NIMBYS*, 33 J. LAND USE & ENVTL. L. 217, 217 (2018) (identifying cities as occasionally motivated by NIMBYS and specifically by renters concerned about rising rents).

¹⁵⁹ *See* FISCHEL, *supra* note 50, at 18.

¹⁶⁰ *See supra* subpart I.B.

¹⁶¹ *See* Been, *supra* note 1, at 148–50 (presenting a theoretical framework for allocating the costs of impact fees).

¹⁶² *See* Rosenberg, *supra* note 1, at 214 (noting that “new home purchasers will bear the rest of the impact fee burden in higher purchase prices”).

¹⁶³ *See id.* (stating that “development impact fees actually shift approximately a quarter of the burden of these fees onto the owners of undeveloped land” (citing John Yinger, *The Incidence of Development Fees and Special Assessments*, 51 NAT'L TAX J. 23, 35 (1998))).

¹⁶⁴ *See* Been, *supra* note 1, at 149.

There are, of course, other effects of energy exactions that will impact the politics of their adoption. Exactions could prove attractive to many local governments seeking to promote clean energy, spur local economic growth in clean energy, and attract new industries, especially as large business and corporate employers increasingly demand clean energy for their operations.¹⁶⁵

A number of municipalities have sought in recent years to brand themselves as green cities.¹⁶⁶ They have made sustainable development a part of their identity. From the adoption of form-based codes to open-space requirements, new development can be a visible expression of a local government's regulatory preferences. Today, many local governments are keenly interested in promoting an environmental identity.¹⁶⁷ This can reflect genuine commitments on the part of voters and elected officials, and also can be economically beneficial if it makes the municipality particularly desirable.¹⁶⁸ In this case, energy exactions are not a zero-sum allocation from existing energy con-

¹⁶⁵ See WORLD WILDLIFE FED'N ET AL., POWER FORWARD 3.0: HOW THE LARGEST U.S. COMPANIES ARE CAPTURING BUSINESS VALUE WHILE ADDRESSING CLIMATE CHANGE (2017), https://c402277.ssl.cf1.rackcdn.com/publications/1049/files/original/Power_Forward_3.0_-_April_2017_-_Digital_Second_Final.pdf?1493325339 [<https://perma.cc/RC57-3AFD>] (finding that 63% of Fortune 100 companies have at least one clean energy target and 48% of Fortune 500 companies have at least one climate or clean energy target—up five percentage points from 2014).

¹⁶⁶ Cf. Byrne & Zyla, *supra* note 3, at 762 (“Many local governments have already taken climate change on as an issue of local significance.”).

¹⁶⁷ See Michael Burger, “It’s Not Easy Being Green”: Local Initiatives, Preemption Problems, and the Market Participant Exception, 78 U. CIN. L. REV. 835, 865–67 (2010) (describing local environmental initiatives); Hari M. Osofsky & Janet Koven Levit, *The Scale of Networks?: Local Climate Change Coalitions*, 8 CHI. J. INT’L L. 409, 414–27 (2008) (examining local climate change efforts in Portland, Oregon, and Tulsa, Oklahoma); U.S. CONFERENCE OF MAYORS, *Mayors Climate Protection Center*, <https://www.usmayors.org/mayors-climate-protection-center/> [<https://perma.cc/T3JX-7Y32>] (reporting that 1,060 mayors were participating in the U.S. Mayors Climate Protection Agreement); U.S. GREEN BLDG. COUNCIL, *LEED Public Policies* (May 2010), <http://www.usgbc.org/Docs/Archive/General/Docs691.pdf> [<https://perma.cc/4965-LXDQ>] (surveying 206 local LEED initiatives).

¹⁶⁸ Cf. RICHARD FLORIDA, *THE RISE OF THE CREATIVE CLASS* 68–82 (2002) (arguing that cities’ economic success depends upon attracting the “creative class,” which includes adopting policies that are appealing to artists and entrepreneurs, among others); Jeffrey M. Berry & Kent E. Portnoy, *A Creative Class Theory of City Sustainability Policies* 11–12 (Sept. 3, 2016) (unpublished manuscript), <https://as.tufts.edu/politicalscience/sites/all/themes/asbase/assets/documents/berry/creativeClass.pdf> [<https://perma.cc/3X8U-6FAG>] (“Cities that pursue sustainability policies have large creative class populations, are politically liberal, and have active local environmental groups involved in policymaking, and tend to be the cities that are experiencing the greatest economic growth. All of these characteristics go together. We refer to these results as ‘a creative class theory of city sustainability policies.’”).

sumers to newcomers but may in fact increase property values for everyone.

Complicating this political case for energy exactions is the tension between our proposal and issues of exclusion and affordability. Impact fees and other forms of exactions have the potential to effect exclusionary policies precisely because they can shift costs to newcomers, protecting in-place property owners.¹⁶⁹ The economic analysis is straightforward and compelling. Exactions are passed on to those who purchase individual dwellings and thus raise the cost of housing, leading to lower levels of production at higher prices.¹⁷⁰ This same dynamic that makes exactions potentially appealing to local officials also makes them troubling to affordable housing advocates and the prospective residents in need of affordable housing options.¹⁷¹ This is, of course, true of all exactions, not just energy exactions. In broad strokes, we think the benefits of forcing developers to internalize burdens of new development on energy infrastructure are worth the costs to newcomers, both because this results in better energy pricing and because it creates market pressures to reduce new energy consumption. Of course, when it comes to trade-offs between incommensurable social values, reasonable minds can disagree.¹⁷² It is enough here to recognize both the promise and the perils of energy exactions.

This political account is not a normative theory of who, ultimately, *should* bear the costs of new energy demand, because there is no reason in the abstract to favor in-place property owners or utility customers over newcomers, or vice-versa. These are political and contingent decisions. Above, we have made the case for emphasizing system-wide marginal cost pricing for energy instead of always defaulting to spreading the costs among all customers, and have highlighted how limited

¹⁶⁹ See, e.g., Steven J. Eagle, *Koontz in the Mansion and the Gatehouse*, 46 URB. LAW. 1, 11 (2014) (noting that “the switch from sharing infrastructure costs to imposing impact fees on new development is an exclusionary fiscal policy”); see also Robert C. Ellickson, *Suburban Growth Controls: An Economic and Legal Analysis*, 86 YALE L.J. 385, 392–402 (1977) (examining the allocational and distributional effects of growth controls such as exactions).

¹⁷⁰ See Eagle, *supra* note 169, at 15 (“As the cost of housing increases, less of it will be demanded. Unfortunately, the production of more housing is the key to housing affordability.”).

¹⁷¹ See *id.* (noting that the cost of exactions “largely is passed on to housing purchasers and their tenants”); see also Been, *supra* note 1, at 148–49 (discussing effect of impact fees on housing affordability).

¹⁷² Cf. Christopher Serkin, *The New Politics of New Property and the Takings Clause*, 42 VT. L. REV. 1, 13–14 (2017) (arguing that the politics of property protection and exclusionary zoning in particular are changing).

forms of price discrimination in utility ratemaking can maximize welfare in cost allocation.¹⁷³ But there are also countervailing concerns like the exclusionary impact of increasing development costs in a particular municipality.¹⁷⁴ Those conflicts cannot be resolved through any one-size-fits-all approach. And, fortunately, they do not need to be. The point here is simply that our proposal is politically plausible and produces benefits that the present approach does not. Some number of local governments are likely to find our proposal appealing. We predict that some subset will actually adopt energy exactions at the local level, so long as they are not otherwise prohibited, which is the next issue to consider.

III

LEGAL OBSTACLES TO ENERGY EXACTIONS

While we think that there are many potential benefits to local governments deploying energy exactions and proposals, such as energy concurrency, uncertainty about the law could also discourage their adoption. We see three potential legal obstacles: whether municipal governments are authorized to adopt exactions under their enabling legislation; intrastate preemption; and constitutional challenges. A statewide energy exaction such as California's recent solar mandate for new homes can readily be adopted by a state legislature or a properly authorized regulatory body, and we also believe it can withstand constitutional scrutiny. Since land-use regulation typically occurs at the local level, however, the issues of state authorization and preemption require some additional analysis. Nevertheless, we conclude that municipalities in many states would likely be free to adopt energy exactions today, and that these too should withstand constitutional scrutiny. None of these potential legal concerns presents a serious threat to the adoption of energy exactions by local governments—at least not an insurmountable barrier in most instances.

A. State Authorization

As an initial matter, it is important to determine whether state law *authorizes* municipal governments to adopt energy exactions at all or, relatedly, whether legislation limiting local fees might somehow prohibit them outright. As of 2015, twenty-nine states had adopted enabling acts for local develop-

¹⁷³ See *supra* subpart I.B.

¹⁷⁴ See *supra* notes 169–72.

ment fees.¹⁷⁵ In the remaining twenty-one states, there is no express enabling legislation. At least among home-rule jurisdictions, the absence of state legislation gives local governments free reign to experiment, and so there would be no statutory constraint on the use of energy exactions.¹⁷⁶ Moreover, both California and Utah explicitly allow the use of exactions for the impact on power generation and distribution.¹⁷⁷

In the other twenty-six states with enabling legislation, however, the story is more complex. Most states' enabling legislation provide that exactions can only be used to address pre-specified public service needs, facilities, or capital improvements that are related to development burdens. Arizona, for example, allows the imposition of fees "to offset costs . . . associated with providing necessary public services to a development."¹⁷⁸ "Necessary public services," are in turn defined as "facilities," which are limited to roads, water systems, sewer systems, storm water systems, parks, fire and police facilities, and libraries.¹⁷⁹ The Arizona statute notably does not include power generation or supply in its list of "necessary public services." That omission might prove disabling. In *Southern Nevada Homebuilders Ass'n v. City of North Las Vegas*, the Nevada Supreme Court, construing the state's statute excerpted above, held that a local ordinance exacting an impact fee for fire and emergency services was not authorized.¹⁸⁰ Applying the *expressio unius est exclusio alterius* interpretive canon, the Nevada Supreme Court held that impact fees for fire and emergency services are not authorized because they are not expressly listed.¹⁸¹ The same would presumably be true of energy exactions.

¹⁷⁵ Clancy Mullen, *State Impact Fee Enabling Acts 1* (Duncan Associates, 2015), http://www.impactfees.com/publications%20pdf/state_enabling_acts.pdf [<https://perma.cc/RJF3-ELWG>]. For an older, but more scholarly, treatment, see Martin L. Leitner & Susan P. Schoettle, *A Survey of State Impact Fee Enabling Legislation*, 25 URB. LAW. 491, 497-503 (1993).

¹⁷⁶ See generally David J. Barron, *Reclaiming Home Rule*, 116 HARV. L. REV. 2255, 2261-383 (2003) (discussing home rule jurisdictions).

¹⁷⁷ CAL. GOV'T CODE § 66002 (West 2007) (defining "facility" or "improvement" to include "[f]acilities for the generation of electricity and the distribution of gas and electricity"); UTAH CODE ANN. § 11-36a-102 (West 2014) (defining "public facilities" for which exactions are permissible to include "municipal power facilities").

¹⁷⁸ ARIZ. REV. STAT. ANN. § 9-463.05 (2014); see also NEV. REV. STAT. § 278B.050 (2013) ("Impact fee" means a charge imposed by a local government on new development to finance the costs of a capital improvement or facility expansion necessitated by and attributable to the new development.").

¹⁷⁹ ARIZ. REV. STAT. ANN. § 9-463.05 (2014).

¹⁸⁰ 913 P.2d 1276, 1278-80 (Nev. 1996).

¹⁸¹ See *id.*

In other states, enabling statutes place restrictions on the *use* of the exactions and not on the nature of the burdens themselves, but the effect is the same. As an example, Arkansas's impact-fee legislation provides that a "municipality . . . may assess, collect, and expend development impact fees only for . . . public facilities . . ." ¹⁸² "Public facilities" are then narrowly defined to include only water systems, wastewater systems, storm water facilities, roads, libraries, parks, and police, fire, and emergency medical facilities. ¹⁸³ Others limit exactions only to the provision of new infrastructure specifically for the use of the new development, instead of for upgrades to existing infrastructure for the benefit of existing users. ¹⁸⁴

Thus, to the extent that courts construe state legislative authorization for local impact fees narrowly, municipalities relying on these statutes to authorize local impact fees may require clarifying legislation that extends exactions to energy related activities, expanding their scope to include facilities and activities such as power generation and energy efficiency. In twenty-six states, this kind of modest legislative change would probably be necessary to enable local governments to adopt our proposal. In the remaining twenty-four states, however, local governments appear to have the authority today to adopt energy exactions, at least so long as they are not preempted nor run afoul of constitutional limits.

B. Intrastate Preemption

Even if municipal governments are authorized to adopt energy exactions under their enabling legislation, public utility laws can still preempt them. State public utility commissions typically approve investments in new energy supply resources

¹⁸² ARK. CODE ANN. § 14-56-103 (2015).

¹⁸³ *Id.*

¹⁸⁴ See, e.g., ARIZ. REV. STAT. ANN. § 9-463.05 (2014) ("Development fees may not be used for any of the following: . . . (d) Upgrading, updating, expanding, correcting or replacing existing necessary public services to provide a higher level of service to existing development."); NEV. REV. STAT. § 278B.280 (2013) (prohibiting the use of impact fees for "[t]he repair, operation or maintenance of existing or new capital improvements or facility expansions"); N.M. STAT. ANN. § 5-8-5 (2015) ("Impact fees shall not be imposed or used to pay for: . . . upgrading, updating, expanding or replacing existing capital improvements to provide better service to existing development . . ."). Two states impose a similar limitation by requiring that impact fees be used only for "new growth." See GA. CODE ANN. § 36-71-8(b) (2010) ("Development impact fees shall not be used to pay for any purpose that does not involve system improvements that create additional service available to serve new growth and development."); S.C. CODE ANN. § 6-1-1010 (2012) (mandating that impact fees may not be used for "a purpose other than system improvement costs to create additional improvements to serve new growth").

based on need, and also set the rates for private sales of energy by utilities. This presents potential for “intrastate” preemption challenges to local initiatives related to energy exactions.¹⁸⁵ Importantly, as Hannah Wiseman has shown in her analysis of local regulation of fossil-fuel fracking, the mere existence of state regulation of an activity does not entail a blanket condemnation of *all* local regulation of that same activity.¹⁸⁶ Rather, especially given local government control over land use and economic growth, preemption analysis of local laws related to energy resources must make some effort to disaggregate control over different institutional aspects of regulation.¹⁸⁷ This requires careful analysis of state and local law in each context, as well as the institutional features of each level of government. Intrastate preemption doctrine proceeds along both express and implied dimensions.¹⁸⁸

It is useful to begin by identifying state laws that might expressly preempt energy exactions. Legal disputes have plagued recent efforts to apply local land use “siting” of activities such as oil and gas fracking and wind energy development, and these kinds of disputes could also be of relevance to some energy exactions.¹⁸⁹ In many states, siting statutes for power plants authorize a state utility commission to approve the siting of a new power plant based on “need.”¹⁹⁰ These statutes frequently expressly preempt a local government decision that rejects a state’s previous approval of a power plant project. To the extent that such a statute contains an “express” preemption clause, a local government’s *refusal* to issue land-use ap-

¹⁸⁵ See Paul Diller, *Intrastate Preemption*, 87 B.U. L. REV. 1113, 1113–17 (2007) (observing how the expansion of “new and innovative policies” at the local level has also led to a rise in claims that local regulation is preempted by state law).

¹⁸⁶ See Hannah J. Wiseman, *Disaggregating Preemption in Energy Law*, 40 HARV. ENVTL. L. REV. 293, 326–39 (2016).

¹⁸⁷ See *id.*

¹⁸⁸ Express preemption of local government initiatives of this sort is rare, but one possible example is state constitutional prohibitions on special taxes or fees—an issue that relates to the authorization for preemption, which we discuss below. See *infra* subpart III.A. Another example is state siting statutes which expressly preempt local land use refusals, though as discussed below this regulates use of energy exactions for certain power supply facilities, not whether a local government can adopt exactions for a range of energy-related purposes that include reducing customer demand. See *infra* notes 190–192 and accompanying text.

¹⁸⁹ See Uma Outka, *Intrastate Preemption in the Shifting Energy Sector*, 86 U. COLO. L. REV. 927, 966–75 (2015); Wiseman, *supra* note 186, at 298.

¹⁹⁰ See Brown & Daniels, *supra* note 79, at 24. Beyond siting, many state franchise laws have been interpreted to limit new entrants from competing with an incumbent utility, even where the incumbent utility does not offer customers the service a new entrant is willing to provide.

provals associated with constructing a state-approved power plant or transmission line thus would be preempted. However, nothing in state power-plant siting statutes would appear to prohibit a local government from taking its own initiative to limit customer demand growth or to collect new revenues from customers, or using these revenues to promote investments in distributed energy supply or energy services, such as customer-sited rooftop solar arrays or energy storage.¹⁹¹

Beyond express preemption, the implied dimension of intrastate preemption includes field, obstacle, and conflict preemption. The most sweeping form of implied preemption—that state retail-rate-setting preempts local energy exactions because it “occupies the field”—is somewhat circular, since any preemption conclusion would depend on how the relevant “field” of state law is defined. However the field is defined, the mere existence of state-utility regulation does not categorically prohibit municipal governments from using taxes, fees or regulation to address any energy incentives related to energy consumption and supply. Local governments routinely exercise land-use authority in ways that implicate energy, from zoning for solar and wind-power generation, to prohibiting hydraulic

¹⁹¹ Some state siting statutes are expansive in scope, limiting who can produce energy regardless of size and sometimes even prohibiting third-parties (other than a customer or utility) from developing new projects that produce and sell energy, so it is certainly conceivable that some customers or local governments would need to seek state approval for certain power generation activities. For a particularly troubling recent case applying a state utility law to keep a church from placing solar panels on its roof, see *State ex rel. Utilities Commission v. North Carolina Waste Awareness & Reduction Network*, 805 S.E.2d 712, 714 (N.C. Ct. App. 2017) (finding third-party solar provider was illegally acting as a “public utility” by agreeing to provide and maintain solar panels to a church), *aff’d*, 812 S.E.2d 804 (N.C. 2018). These state law barriers to new entrants, including broad applications of siting statutes, can be a significant drag on renewable power development. One recent study surveys 160 manufacturers and finds that 25% of these have corporate renewable energy targets. See ALEXANDRA REKKAS, DAVID GARDINER & ASSOCS., *Renewable, Climate Commitments Drive Clean Energy Purchases*, https://www.dgardiner.com/wp-content/uploads/2017/09/DGA-Clean-Energy-Access_FactSheet_FINAL.pdf [<https://perma.cc/77JT-U289>]. To the extent that a significant number of manufacturing facilities that, according to corporate targets, need to be powered by 100% renewable energy are also located in states that limit access to renewable energy, economic development officials face challenges in attracting and retaining businesses. Due to facility size requirements, many state siting statutes do not apply to smaller-scale power generation, such as roof top solar. For example, the Minnesota Power Plant Siting Act only applies to power facilities that are greater than 50 megawatts. For discussion, see MINN. DEP’T OF COMMERCE, SOLAR SITING AND ENVIRONMENTAL REVIEW WORKING GROUP FINAL REPORT (2015), https://mn.gov/eera/web/project-file?legacyPath=/Opt/documents/SWG_Report_complete-post.pdf [<https://perma.cc/PX3T-HX5U>]. Thus, promoting more small-scale, decentralized solar deployment is one way to overcome some of these legal barriers to renewable power.

fracturing.¹⁹² The mere fact of state retail-rate-setting does not occupy the field of land-use regulations that have some impact on energy supply or demand, and energy exactions are really no more than that. They do not involve the direct regulation of energy production by a utility at all; instead, they merely regulate development in a way that seeks to minimize new energy demand.

If we dig deeper into utility-franchise regulation, a municipal government could, at some point, go too far in acting like a utility without regulatory approval. As Franklin D. Roosevelt recognized in his famous Portland Speech, there are many advantages to having a municipal government itself, rather than an investor-owned utility, provide for energy supply and distribution, directly setting retail rates for customers.¹⁹³ Today, more than 2,000 publicly owned utilities provide energy to more than 14% of the U.S. population.¹⁹⁴ Thirty of these municipal utilities serve populations of more than 100,000 in me-

¹⁹² See, e.g., Roderick M. Hills, Jr., *Hydrofracking and Home Rule: Defending and Defining an Anti-Preemption Canon of Statutory Construction in New York*, 77 ALB. L. REV. 647, 656–57 (2013) (arguing that local land-use authority is too important to be preempted by implication); Janice M. Schneider et al., *The Future of Siting and Building Energy Infrastructure*, 40 ENVTL. L. REP. 10363, 10367–69 (2010) (describing zoning challenges to siting energy facilities); Hannah Wiseman, *Expanding Regional Renewable Governance*, 35 HARV. ENVTL. L. REV. 477, 494 (2011) (“With technical guidance, municipalities can effectively govern and enable the siting of distributed renewables by modifying their zoning and building codes.”).

¹⁹³ According to President Roosevelt:

[W]here a community—a city or county or a district is not satisfied with the service rendered or the rates charged by the private utility, it has the undeniable basic right, as one of its functions of Government, one of its functions of home rule, to set up, after a fair referendum to its voters has been had, its own governmentally owned and operated service. That right has been recognized in a good many of the States of the Union. Its general recognition by every State will hasten the day of better service and lower rates. It is perfectly clear to me, and to every thinking citizen, that no community which is sure that it is now being served well, and at reasonable rates by a private utility company, will seek to build or operate its own plant. But on the other hand the very fact that a community can, by vote of the electorate, create a yardstick of its own, will, in most cases, guarantee good service and low rates to its population. I might call the right of the people to own and operate their own utility something like this: a “birch rod” in the cupboard to be taken out and used only when the “child” gets beyond the point where a mere scolding does no good.

President Franklin D. Roosevelt, Campaign Address in Portland, Oregon on Public Utilities and Development of Hydro-Electric Power (Sept. 21, 1932), <http://www.presidency.ucsb.edu/ws/?pid=88390what> [<https://perma.cc/927Y-7MJA>].

¹⁹⁴ See AM. PUB. POWER ASS’N, U.S. ELECTRIC UTILITY INDUSTRY STATISTICS 50 (2014), <http://appanet.files.cms-plus.com/PDFs/Directory%20-%20Statistical%20Report.pdf> [<https://perma.cc/7D78-9U5D>].

dium- to large-sized cities, including portions of Austin, Los Angeles, Phoenix, Long Island, Nashville, Memphis, Jacksonville, Sacramento, Orlando, and Seattle, and hundreds of them serve customers in smaller-sized cities and towns.¹⁹⁵ Importantly, however, state laws require municipal governments that wish to take public ownership of an existing energy system to go through an extensive and burdensome regulatory process.

Even where a local government does not host its own municipal utility, and instead outsources its energy supply decisions to a private utility, it is increasingly rare today to see local citizens indifferent to local policies related to energy affordability, reliability, and environmental protection. More than three dozen municipal governments have exceeded state renewable power goals and adopted their own 100% renewable energy targets.¹⁹⁶ Local governments' building efficiency incentives and enforcement strategies frequently result in energy conservation and more efficient energy use than state law.¹⁹⁷ These local green-building laws can translate into lower energy costs, saving businesses money. Especially in states with high energy costs, it is common for municipal governments to compete aggressively to attract and retain business customers, including offering incentives based on manufacturing output, which also has the effect of providing at least some companies

¹⁹⁵ *Id.* at 52–53.

¹⁹⁶ See Lyndsey Gilpin, *Large or Small, Cities' 100% Renewable Energy Pledges Are More Than Symbolic*, ENERGY NEWS NETWORK (May 22, 2017), <http://southeastenergynews.com/2017/05/22/large-or-small-cities-100-renewable-energy-pledges-are-more-than-symbolic/> [<https://perma.cc/ME5Q-SEWM>]; *Projects in North America, GO 100% RENEWABLE ENERGY* (Sept. 2018), <http://www.go100percent.org/cms/index.php?id=18/> [<https://perma.cc/74FV-KA2D>]; see also SIERRA CLUB, *CITIES ARE READY FOR 100% CLEAN ENERGY: 10 CASE STUDIES 2* (2017), <https://www.sierraclub.org/sites/www.sierraclub.org/files/blog/RF100-Case-Studies-Cities-Report.pdf> [<https://perma.cc/V2H7-NBJG>] (reporting on ten U.S. cities and their commitment to using only renewable energy sources).

¹⁹⁷ See Victor M. Hanna, *Stop, Think, Build, Repeat: Using Behavioral Economics to Better Design Energy Efficiency Policies for Our Cities' Buildings*, 69 U. MIAMI L. REV. 241, 288–89 (2014) (describing various local building initiatives in California and concluding that municipal governments are “better able to design policies that meet the specific needs of their particular communities as compared to federal or state authorities”); ELIZABETH DORRIS ET AL., NAT'L RENEWABLE ENERGY LAB., *Energy Efficiency Policy in the United States: Overview of Trends at Different Levels of Government* (2009), <https://www.nrel.gov/docs/fy10osti/46532.pdf> [<https://perma.cc/333W-4UAZ>] (describing municipal as well as state and federal building requirements). On how building code enforcement can produce revenue for local governments, see LOUISE MOZINGO & ED ARENS, CTR. FOR RES. EFFICIENT CMTYS. & CTR. FOR THE BUILT ENV'T, UNIV. OF CAL. AT BERKELY, *QUANTIFYING THE COMPREHENSIVE GREENHOUSE GAS CO-BENEFITS OF GREEN BUILDINGS 22–30* http://ced.berkeley.edu/downloads/research/CREC_CBE_Final_Report.pdf [<https://perma.cc/8LAW-A599>].

a discount from state-approved energy prices.¹⁹⁸ If state rate regulation were construed as field preemption of energy exactions, it would also threaten these kinds of local government renewable power goals, energy efficiency standards, and economic development programs. Yet no one seriously suggests that these kinds of initiatives are somehow preempted by state law.

It is thus important to approach any implied preemption analysis of exactions with care and not to allow it to categorically foreclose all local government initiatives that address energy prices. For this reason, local energy-exactions initiatives need to be evaluated under the more nuanced analysis of obstacle and conflict preemption. A detailed examination of how energy exactions relate to specific state laws and their purposes demonstrates that any intrastate preemption concerns with energy exactions either misunderstand their scope and role or are misplaced.

Consider too an “obstacle” preemption analysis. As an initial matter, assessing whether state-utility regulation presents an obstacle to energy exactions requires articulating the regulatory objectives behind state-franchise regulation and retail rate-setting laws.

Utility franchise regulation protects customers against protracted distribution franchise battles that produce duplicative or unnecessary investments. To the extent a municipal government requires all local landowners to pay fees based on their energy use, invests this in city energy supply and distribution resources, and forecloses any landowner from purchasing energy from anyone but the local government, in effect it is making a decision to operate as a municipal utility.¹⁹⁹ In order for this kind of full municipalization to occur, state laws require local governments to go through extensive regulatory approvals

¹⁹⁸ Many municipal governments offer targeted tax credits, some of which are tiered to manufacturer employee hiring and manufacturing outputs. See Louise Story, *As Companies Seek Tax Deals, Governments Pay High Price*, N.Y. TIMES (Dec. 1, 2012), <http://www.nytimes.com/2012/12/02/us/how-local-taxpayers-bankroll-corporations.html?pagewanted=all&mcubz=0> [<https://perma.cc/HU9H-RQCM>]. Some of these locally financed programs directly target high energy prices. For example, New York City offers an Energy Cost Savings Program (funded through property tax contributions to an Industrial and Commercial Abatement Program) that offers businesses relocating to target areas of the city 45% savings from electricity prices and 35% savings from natural gas prices. See N.Y.C. SMALL BUS. SERVS., SMALL BUSINESS INCENTIVE PROGRAMS, http://www.nyc.gov/html/sbs/nycbiz/downloads/pdf/summary/incentives/business_incentives_pamphlet.pdf [<https://perma.cc/JQ36-GMEA>].

¹⁹⁹ For a discussion, see Welton, *supra* note 9, at 304–08 (discussing municipalization as a community’s decision to forgo energy supply outsourcing).

designed to minimize utility franchise disputes.²⁰⁰ Local governments have always had the option of public ownership and control of the energy system, but forming a municipal utility is extremely expensive and can also prove difficult politically.²⁰¹ As we demonstrated above,²⁰² energy exactions offer local governments a much more modest option. Existing municipalization laws protect consumers from the harms of relentless franchise battles and inefficient investments, but they do not foreclose local governments from adopting a policy initiative related to energy resources or local energy demand growth, especially where an incumbent investor-owned utility has failed to provide it.

Even if utility franchise regulation does not present a preemption problem, rate regulation could be invoked as a way of challenging exaction fees. In setting just and reasonable retail rates, utility regulators set a price for the retail sale of electricity.²⁰³ By imposing an exaction on a subset of the utility's customers, some might object that local land-use regulators are supplementing rates with a fee that applies only to newcomers, which could potentially be construed as interfering with uniform utility rates.

However, allowing for energy exaction fees for some customers against the backdrop of state rate regulation readily survives an intrastate preemption analysis. Cost of service ratemaking exists for two main reasons: (1) to compensate regulated utilities (allowing them to recover the capital infrastructure costs associated with providing service to customers) and (2) to protect customers from unreasonable price discrimination, as occurs when a monopolist discounts one customer at the cost of another similarly situated customer. Energy exactions are a supplement to rate regulation, and hence do not present an obstacle to a utility recovering its reasonable costs from its customers. Even with an exaction fee for some customers, the utility is still allowed to pass on all costs state

²⁰⁰ These state municipalization laws are designed to eliminate predatory franchise conflicts over customers and to avoid duplicative and inefficient investment in energy supply and distribution infrastructure. For a survey of these laws, see ABBY BRIGGERMAN ET AL., AM. PUB. POWER ASS'N, SURVEY OF STATE MUNICIPALIZATION LAWS (2012), https://www.publicpower.org/system/files/documents/municipalization-survey_of_state_laws.pdf [<https://perma.cc/P2JW-JURK>].

²⁰¹ See Welton, *supra* note 9, at 289 (noting that in the 1990s many communities considered municipalization but that the barriers "proved too substantial for most localities" because of utility opposition along with a legal requirement that cities help fund previously incurred infrastructure costs).

²⁰² See *supra* subpart II.A.

²⁰³ See *supra* subpart II.B.

regulators have authorized, including customers who are subject to the fee. Nor do energy exactions facilitate the kinds of discriminatory customer “discounts” or forms of predatory pricing that rate regulation prohibits. A customer subject to an energy exaction pays some fee to local land-use regulators on top of its energy rates. Ultimately, the mere fact that one customer incurs greater costs than other customers is not determinative of a preemption filing under the filed rate doctrine, which is concerned only with the prices a monopolist offers similar customers.²⁰⁴ Importantly, with energy exactions any rents go to a municipal government, not a utility, which simply places this concern beyond the focus of cost-of-service ratemaking. To the extent any additive fees from energy exactions supplement existing utility rates, they do not introduce the kinds of utility discounts or predatory pricing that harms consumers.

At a more fundamental level, energy exactions do not set a price for the sale of energy at all. Exactions are costs imposed on developers as part of the development process—costs that represent the increased burden on the electrical grid, but nevertheless are considered development costs, not energy costs. And to the extent the exactions are effective at producing energy savings, this will not directly affect a utility’s rates. Even in the absence of energy exactions, someone can of course choose to build a more efficient home, or can choose to conserve energy in many ways, without triggering any kind of preemption analysis based on utility ratemaking. The effect of energy exactions on utility rates is no different.

In terms of conflict preemption, the argument that energy exactions conflict with state utility regulation simply misses the point of the regime we propose. State rate regulation could conceivably present a clear conflict if a local government capped state-approved utility rates or otherwise prohibited a utility from recovering its costs for state-approved investments in power plants. But an energy exaction (as we have argued, a rent transfer to the local government) would not threaten the financial viability of a state-regulated utility.²⁰⁵ Energy exac-

²⁰⁴ See Jim Rossi, *Lowering the Filed Tariff Shield: Judicial Enforcement for a Deregulatory Era*, 56 VAND. L. REV. 1591, 1598–1601 (2003) (discussing how the filed rate doctrine was originally intended to protect customers from unjust discrimination in pricing or service by a monopolist).

²⁰⁵ At the extreme, a significant loss of customers from a large metropolitan area may leave a utility saddled with past state-approved infrastructure such as an old nuclear or coal plant that no longer has economic value elsewhere on the energy system. This parallels past arguments utilities have made regarding

tions may help to keep local demand from growing, but this merely represents the local government creating an energy conservation service that the incumbent utility has not made available under existing rate regulation. It does not impose any additional financial cost on the utility or its other customers, so energy exactions aimed at encouraging conservation do not conflict with state regulation of utility rates.

Importantly, in some limited instances rate regulation already incorporates its own limited form of energy exactions, albeit on a larger scale than any municipal government can regulate. When it comes to power-distribution-line expansion, state regulators often allow utilities to collect different amounts from customers based on locational attributes (e.g., higher distribution line fees for rural customers as opposed to urban ones).²⁰⁶ But to see these kinds of expansion fees as conflicting with local energy exactions also misunderstands how local en-

“stranded costs,” which of course are difficult to disentangle from the ordinary and political risks regulated firms always take on. See *supra* note 75 and accompanying text. Since energy exactions present an opportunity for intergovernmental competition over rent extraction, they are best understood as political risks that may at times also create new economic risks for incumbent utilities.

²⁰⁶ For example, in New York new customers meeting permanency requirements may receive up to 500 feet of single-phase or 300 feet of three-phase overhead electric distribution line (along the road), per premises (tax parcel), free of charge. In addition, residential customers may receive up to 100 feet of overhead electric service line (off road), per premises (tax parcel), free of charge, but customers are assessed specific line fees for any additional distances. See *Line Extensions*, N.Y. STATE ELEC. & GAS CORP., https://www.nyseg.com/wps/portal/nyseg/home!/ut/p/z0/fy9BT8MwDIV_TY_IzmNIO1bTBKooAyRElsvkNSbN1jhdKhX49wSExAl8ePJ7sj_LoEGBFpqcepyC0FD8Vl_v5pft-vZqhfebu80MH7G5WS6fn-brZgEN6DKAf1SNX4RZbFetBT1S7i-cvAZQNJHY6IxfwgvxmED1wTOoxHFyHXsaf8j_nC5kdziddA26C5L5PYOSj8SWbNz9fFhz2Q4Vkhdf86SK_RhcmIrl3J_dYEphYiL7YHj4jotyobGksp5gP0rtg3-pPwEsfZDq/ [<https://perma.cc/M2LR-PUAM>]. Other states outline specific fees for new customers. Arizona used to allow free footage allowances and would give refunds to customers whose utility connection required less than the allotted free amount. Due to growth in development, the refunds are now redistributed in helping new retail customers with line extensions. See *In re Application of Arizona Public Service Co.-Revised Line Extension Tariff Schedule 3*, Nos. E-01345A-05-0816, E-01345A-05-0826, E-01345A-05-0827 (ACC 2008). According to the 2007 California Integrated Energy Policy Report, anyone building infrastructure outside a smart growth area must pay the full price for any customer-specific distribution line extensions. See CAL. ENERGY COMM’N, INTEGRATED ENERGY POLICY REPORT (2007), <http://www.energy.ca.gov/2007publications/CEC-100-2007-008/CEC-100-2007-008-CMF.PDF> [<https://perma.cc/NV55-29DG>]. Many utilities have had their specific line-extension fees approved in rates or tariffs on file with state regulators. For example, Pacific Gas & Electric Co. has a set allowance for each new customer distribution line investment (set by formula) and recovers any additional distribution line costs from individual customers. See PAC. GAS AND ELEC. CO., ELECTRIC RULE NO. 15: DISTRIBUTION LINE EXTENSIONS (2003), https://www.pge.com/tariffs/tm2/pdf/ELEC_RULES_15.pdf [<https://perma.cc/65NE-M8LB>].

ergy exactions may differ from broader customer expansion exactions offered by utilities under state law. Even if a local government were to impose local energy exactions to promote demand reduction or new investments in power supply, higher distribution line charges in state-regulated rates would continue to apply under state law. A utility would still be allowed to recover its costs from more expensive new customers through regulated rates. Local energy exactions would simply supplement this by subjecting some customers to higher fees for their increased impacts on the power system based on the energy goals of the community in which they live.

As a generally matter, energy exactions should present no serious intrastate preemption problem because this is a context in which some regulatory competition over customer energy resources is both appropriate and desirable. Recognizing local land-use control over the energy demand and supply impacts of land use can produce valuable information and help spark greater incentives for state regulators to consider this in their energy policy decisions. Regardless of what state regulators do, it invites municipal governments to play an integral role in energy planning without requiring them to take on the significant financial obligation of operating its energy system as a municipal utility. This should help to spark greater competition between local communities over energy incentives and basic values related to energy.

As energy markets expand to incorporate services such as demand reduction,²⁰⁷ municipal governments might also be uniquely positioned to aggregate customer energy resources and sell these in interstate energy markets. The very possibility of such a local government role should better encourage utility regulators (at the state or local level) to integrate the energy implications of various land uses, including demand impacts, into their planning processes. Regardless of who takes the initiative in recognizing opportunities for price discrimination and applying these exactions to energy rates, ongoing competition between state and local regulators over this energy vision will encourage a more complete approach to utility planning that favors consideration of the system-wide energy impacts of various land uses.²⁰⁸

²⁰⁷ See *supra* note 93 and accompanying text.

²⁰⁸ Of course, if state regulators were to incorporate their own exactions for local development, with an aim to promote particular forms of energy conservation or energy supply, this would require a case-by-case assessment of conflict preemption. We would not want our proposal to discourage states from adopting

Consistent with discussions elsewhere in both environmental and energy law, another way of framing this intrastate preemption argument is that, at most, it would constitute a type of conflict preemption, where state law creates a floor for the setting of energy rates (allowing, at a minimum, a utility to recover its costs from customers) but does not impose a ceiling that would prohibit the use of energy exactions to encourage new forms of energy efficiency or decentralized power supply.²⁰⁹ State law would still set the utility's minimum rate level and, in rate allocation, protect customers against discriminatory prices (including predatory pricing), but state-utility regulation should not hamstring additional local clean energy innovations. In a similar manner, under the statute authorizing adoption of California's new solar mandate—a statewide type of energy exaction—municipal governments are allowed to adopt more stringent local requirements so long as these are cost effective and do not increase a building's net energy consumption.²¹⁰ Treating state utility law, including rate setting, as a regulatory floor encourages local governments to become partners with state regulators in pursuing new experiments to promote energy conservation and clean energy supply.

C. Takings and Unconstitutional Conditions

For state-utility regulators setting customer rates, the U.S. Constitution's Takings Clause provides few constraints. Since the New Deal, courts have consistently subjected utility rate-setting decisions (including decisions regarding the allocation of costs among customers) to a fairly deferential standard of constitutional review.²¹¹ An energy utility has significant incentives to provide information to regulators on an ongoing

these approaches and hope that it would create better information and greater incentives for a state regulator to do so.

²⁰⁹ Cf. Jim Rossi, *The Brave New Path of Energy Federalism*, 95 TEX. L. REV. 399, 451–54 (2016) (arguing for a similar form of floor preemption under federal energy statutes); Jim Rossi & Thomas Hutton, *Federal Preemption and Clean Energy Floors*, 91 N.C. L. REV. 1283, 1287 (2013) (arguing for a “clean energy floor” as a method of preemption).

²¹⁰ See CAL. ENERGY COMM'N, LOCAL ORDINANCES EXCEEDING THE 2016 BUILDING ENERGY EFFICIENCY STANDARDS, <https://www.energy.ca.gov/title24/2016standards/ordinances/> [<https://perma.cc/2F46-QP7K>] (noting that local governments may adopt more stringent standards, subject to approval by state regulators).

²¹¹ In a landmark 1944 decision, the U.S. Supreme Court adopted a deferential approach to reviewing utility rates under the U.S. Constitution. See *Fed. Power Comm'n v. Hope Natural Gas Co.*, 320 U.S. 591, 602–03, 615–19 (1944). The Supreme Court's most recent decision on this issue continued with a deferential approach to reviewing a takings challenge to rates, upholding a regulator's utility rate determinations so long as the end result is just and reasonable and the

basis to correct for any failure to recover costs. Too, utility investor sophistication and portfolio diversity makes any harm that does occur due to ratemaking look more like an ordinary business risk, not a constitutional injury. Any expectation-based interests of investors are typically considered beyond any meaningful review by courts, since they are likely to be protected in the political process of ratemaking.²¹²

By contrast, energy exactions implicate a distinct doctrinal line of case law involving the unconstitutional conditions doctrine. The application of this doctrine to exactions is contested and in flux, but is governed by a trio of cases: *Nollan v. California Coastal Commission*,²¹³ *Dolan v. City of Tigard*,²¹⁴ and *Koontz v. St. Johns River Water Management District*.²¹⁵ Together, these cases establish that any development exactions must be sufficiently related to, and proportional to, the underlying justification for the exaction.

Broadly speaking, *Nollan*, *Dolan*, and *Koontz*, and application of the unconstitutional takings doctrine, can be understood as limiting unduly burdensome exactions that impose significant costs on a few without producing commensurate benefits.²¹⁶ In *Nollan*, the Supreme Court struck down an effort by the California Coastal Commission to condition redevelopment of a beachfront lot on the property owner dedicating land for a public right-of-way along the ocean.²¹⁷ The Court reasoned that such development conditions must be related to, or have an “essential nexus” to, the impacts of the proposed development²¹⁸—a requirement that, much like the cost causation principle in utility ratemaking,²¹⁹ aims to impose addi-

firm remains viable for future investors. See *Duquesne Light Co. v. Barasch*, 488 U.S. 299, 315–16 (1989).

²¹² For discussion of the contrast between judicial approaches to constitutional review of utility ratemaking versus local land use regulation, see Susan Rose-Ackerman & Jim Rossi, *Disentangling Deregulatory Takings*, 86 VA. L. REV. 1435, 1441–57 (2000).

²¹³ 483 U.S. 825 (1987).

²¹⁴ 512 U.S. 374 (1994).

²¹⁵ 570 U.S. 595 (2013).

²¹⁶ See, e.g., Christina M. Martin, *Nollan and Dolan and Koontz—Oh My! The Exactions Trilogy Requires Developers to Cover the Full Social Costs of Their Projects, But No More*, 51 WILLAMETTE L. REV. 39, 41 (2014) (identifying “basic ideas” from the trio of cases as including “(1) the government should not be able to use land-use laws and permit applications to coerce landowners into giving the government what it would otherwise have to pay for; and (2) the government may legitimately require landowners to carry their own weight, mitigating their development plans so that landowners do not impose costs on their neighbors”).

²¹⁷ 483 U.S. at 843.

²¹⁸ See *id.* at 837.

²¹⁹ See *supra* subpart II.B.

tional costs on those who stand to benefit from new investment.

In *Dolan*, the Supreme Court struck down a condition imposed by the city on the granting of a permit to expand a hardware store, requiring the property owner to dedicate land for a public bike path, among other things.²²⁰ The Court held that while the bike path did bear an essential nexus to the impact of increased traffic from the store expansion, the government nevertheless bears an additional burden of demonstrating that its demand is in “rough proportionality” to that impact.²²¹ Because the city did not produce any evidence demonstrating how much the bike path would offset the increased traffic, the condition was unconstitutional.²²² *Dolan*’s proportionality requirement helps to ensure that when municipal governments do impose exactions, those costs have some rough proportionality to the burdens being offset—another parallel to utility ratemaking’s cost causation principle.²²³

Finally, in *Koontz* the Court resolved two outstanding questions, holding that the *Nollan/Dolan* framework applies to monetary exactions as well as to demands for land,²²⁴ and that it applies even where the government ultimately denies the permit because the property owner did not accede to the demands, i.e., to so-called “failed exactions.”²²⁵ Under this framework then, an exaction must be both related to, and roughly proportional to, the expected impact of the development, and this requirement applies also to demands for money.²²⁶

The requirements of *Nollan*, *Dolan*, and *Koontz* are relatively rigorous in contrast to the kind of deference to regulators

²²⁰ 512 U.S. at 379.

²²¹ *Id.* at 391.

²²² *Id.* at 396–97.

²²³ See *supra* notes 129–34 and accompanying text.

²²⁴ See 570 U.S. at 612.

²²⁵ See *id.* at 607. For analysis of this case, see John D. Echeverria, *The Costs of Koontz*, 39 VT. L. REV. 573, 574–86 (2015) (criticizing *Koontz* and contending that the Court’s holdings “represent incoherent departures from prior precedent and established doctrine”). See also Lee Anne Fennell & Eduardo M. Peñalver, *Exactions Creep*, 2013 SUP. CT. REV. 287, 297–99 (summarizing the Court’s holdings and reasoning); Thomas W. Merrill, *Anticipatory Remedies for Takings*, 128 HARV. L. REV. 1630, 1660–62 (2015) (describing *Koontz* and its holding); Sean F. Nolon, *Bargaining for Development Post-Koontz: How the Supreme Court Invaded Local Government*, 67 FLA. L. REV. 171, 188–92 (2015) (“Now physical, monetary, imposed, and proposed conditions must meet the nexus and rough proportionality requirements.”).

²²⁶ See 570 U.S. at 597.

that utility rate regulation has received.²²⁷ Analogous state laws sometimes make them even more so.²²⁸ Still, these doctrines leave plenty of room for the traditional use of exactions to force developers to pay for, or otherwise mitigate, the adverse impacts of a proposed development. Exactions that require developers to compensate for the marginal effects of their development on municipal infrastructure will withstand constitutional scrutiny so long as the government can make an adequate showing of proportionality.²²⁹ Properly interpreted, this trio of cases should not prohibit the energy exactions that we propose—and satisfying their requirements may even help to better align them with the goals of marginal cost pricing.

Fundamentally, this entire area of law responds broadly to the concern that local governments can, and sometimes in extreme cases do, impose excessive and extreme exactions and can constitute rent seeking that is harmful to both property owners and social welfare.²³⁰ The unconstitutional conditions doctrine aims squarely at the concern that exactions might be used to extract exorbitant rents from the few to produce unrelated, sometimes obscured benefits that citizens are unable to monitor in local voting and political processes.²³¹ In fact, if

²²⁷ See *supra* notes 211–12 and accompanying text (contrasting judicial review of rate regulation).

²²⁸ See, e.g., Fenster, *supra* note 34, at 736 (describing state court review of exactions).

²²⁹ See, e.g., Herron v. Mayor & City Council of Annapolis, 388 F. Supp. 2d 565, 570–71 (D. Md. 2005), *aff'd sub nom.* Herron v. Mayor & City Council, 198 F. App'x 301 (4th Cir. 2006) (upholding as proportional an impact fee ordinance that collected and distributed funds on a district-wide basis); Ocean Harbor House Homeowners Ass'n v. Cal. Coastal Comm'n, 77 Cal. Rptr. 3d 432, 446–50 (Cal. Ct. App. 2008) (finding a mitigation fee to be proportional to the loss of beach that would result from granting a seawall construction permit); Dowerk v. Charter Twp. of Oxford, 592 N.W.2d 724, 728 (Mich. Ct. App. 1998) (“[W]e conclude that conditioning the development of a subdivision on upgrading the existing private road that would provide the development’s only access to public highways . . . imposes a burden that is in at least ‘rough proportion’ to the increased traffic and public safety concerns that would follow from the proposed development.”); Sparks v. Douglas Cty., 904 P.2d 738, 745–46 (Wash. 1995) (en banc) (conditioning approval of plat applications upon dedication of rights of way for road improvements was proportional to the increased traffic a development would cause).

²³⁰ See Martin, *supra* note 216, at 41 (stating that *Nollan*, *Dolan*, and *Koontz* recognize that “the government should not be able to use land-use laws and permit applications to coerce landowners into giving the government what it would otherwise have to pay for . . .”).

²³¹ See *Koontz*, 570 U.S. at 606 (“Our precedents thus enable permitting authorities to insist that applicants bear the full costs of their proposals while still forbidding the government from engaging in ‘out-and-out . . . extortion’ that would thwart the Fifth Amendment right to just compensation.” (alteration in original) (quoting *Nollan v. Cal. Coastal Comm'n*, 483 U.S. 825, 837)); see also WILLIAM A. FISCHER, REGULATORY TAKINGS: LAW, ECONOMICS, AND POLITICS 139 (1995) (arguing

priced too high, exactions allow a local government to expropriate surplus value from a developer for reasons that have little connection to a use of land. Nevertheless, energy exactions should not violate the unconstitutional conditions doctrine, at least if properly implemented.

As a preliminary matter, it is an open question whether the *Nollan/Dolan/Koontz* trio even applies to legislated exactions.²³² According to one reading of *Dolan*, the constitutional harm animating this entire area of law comes from singling-out an individual property owner for an extortionate demand.²³³ Backroom deals with opaque negotiations are particularly ripe for abusive demands, and so are subject to especially searching review. Arguably, however, the same is not true of legislative exactions with pre-specified prices. If developers are on notice ahead of time of the prices they will be expected to pay, concerns about excessive or extortionate demands largely disappear. Several courts have, indeed, held that the *Nollan/Dolan* framework does not apply to legislative exactions at all.²³⁴ If this approach were to prevail, courts would have little business in policing how energy exactions are set.

that owners of undeveloped land have less political power and therefore require greater constitutional protection against land-use regulations); Alan Romero, *Two Constitutional Theories for Invalidating Extortionate Exactions*, 78 NEB. L. REV. 348, 371–72 (1999) (suggesting less political accountability exists in the context of exactions). *But see* Mark Fenster, *Failed Exactions*, 36 VT. L. REV. 623, 647 (2012) (suggesting that “political accountability” may constrain the use of exactions).

²³² David L. Callies, *Through a Glass Clearly: Predicting the Future in Land Use Takings Law*, 54 WASHBURN L.J. 43, 48 (2014) (identifying issue as unresolved).

²³³ *See, e.g.*, Ehrlich v. City of Culver City, 911 P.2d 429, 460 (Cal. 1996) (holding that *Nollan* and *Dolan* do not apply to legislative exactions); Ball & Reynolds, *supra* note 38, at 1519–20 (arguing there is no exception for legislative exactions); *id.* at 1561–68 (describing law and citing cases addressing the legislative–adjudicative distinction); Laurie Reynolds, *Local Subdivision Regulation: Formulaic Constraints in an Age of Discretion*, 24 GA. L. REV. 525, 544–49 (1990) (arguing that the distinction itself is meaningless in the context of local governments); *see also* J. David Breemer, *The Evolution of the “Essential Nexus”: How State and Federal Courts Have Applied Nollan and Dolan and Where They Should Go from Here*, 59 WASH. & LEE L. REV. 373, 375 (2002) (“This Article contends that courts misread *Nollan* and *Dolan* and undermine the purposes of the Takings Clause when they hold that the essential nexus does not apply to monetary or legislative exactions.”). For a thorough review of the literature and a summary of the debate, see Mulvaney, *supra* note 18, at 146–51. *See also* Fenster, *supra* note 34, at 745–46 (describing the imperfections of *Nollan/Dolan*).

²³⁴ *See, e.g.*, St. Clair Cty. Home Builders Ass’n v. City of Pell City, 61 So. 3d 992, 1007 (Ala. 2010) (finding that *Dolan* is not applicable to legislative enactments); Home Builders Ass’n of Cent. Ariz. v. City of Scottsdale, 930 P.2d 993, 1000 (Ariz. 1997) (distinguishing *Nollan/Dolan*); Greater Atlanta Homebuilders Ass’n v. DeKalb Cty., 588 S.E.2d 694, 697 (Ga. 2003) (finding the appellants’ use of *Dolan* unpersuasive).

Other courts, however, disagree and apply these doctrines in a way that subjects local land-use exactions to relatively rigorous judicial scrutiny. Several courts have reasoned that the underlying harm is the substance of the demand itself and that both legislative and negotiated exactions are subject to *Nollan/Dolan* analysis.²³⁵ The doctrinal issue remains unresolved. It is therefore important to consider how the unconstitutional conditions doctrine applies specifically to energy exactions—a question that may require careful factual assessment of not only how the *level* of the costs of energy exactions compares to the benefits, but *who* bears the costs and *who* benefits.

Superficially, the *Nollan/Dolan* issues appear simple enough. So long as a municipality can demonstrate that it is pricing energy exactions consistently with our proposal and charging developers no more than the marginal impact of the development on energy infrastructure, the exactions will be both related to, and proportional to, the burdens created by the development. The problem becomes more complex, however, with the recognition that the burdens of development on energy infrastructure are not necessarily burdens that the municipality will bear. The possibility of a jurisdictional mismatch between the municipality exercising land-use control and the utility providing energy to the development makes the analysis considerably more difficult.

There is only a *possible* mismatch, however, because in many areas of the country customers are not served by a private utility but by a “municipal utility,” which owns distribution wires.²³⁶ Beyond the distribution and retail sale of energy, many municipal power utilities also own generation and trans-

²³⁵ See, e.g., *Nat'l Ass'n of Home Builders of U.S. v. Chesterfield Cty.*, 907 F. Supp. 166, 168–69 (E.D. Va. 1995) (applying the “rough proportionality” test to a legislative cash proffer policy), *aff'd*, 92 F.3d 1180 (4th Cir. 1996); *N. Ill. Home Builders Ass'n v. Cty. of Du Page*, 649 N.E.2d 384, 388–89 (Ill. 1995) (analyzing whether ordinances passed pursuant to state enabling acts comport with *Nollan* and *Dolan*); *Amoco Oil Co. v. Vill. of Schaumburg*, 661 N.E.2d 380, 390–91 (Ill. App. Ct. 1995) (“Certainly, a municipality should not be able to insulate itself from a takings challenge merely by utilizing a different bureaucratic vehicle when expropriating its citizen’s property.”); *Town of Flower Mound v. Stafford Estates Ltd.*, 135 S.W.3d 620, 641 (Tex. 2004) (“While we recognize that an ad hoc decision is more likely to constitute a taking than general legislation, we think it entirely possible that the government could ‘gang up’ on particular groups to force exactions that a majority of constituents would not only tolerate but applaud, so long as burdens they would otherwise bear were shifted to others.”).

²³⁶ For discussion, see *supra* notes 193–195 and accompanying text.

mission.²³⁷ Where a municipal utility provides both power generation and distribution to customers in a municipality, the burdens of local development on energy supply are, in effect, no different from the burdens on public schools or other municipal services. In the absence of energy exactions, the costs of adding capacity to the system to meet new demand will be borne by the municipality one way or another. Shifting these costs to the developer is precisely the use of exactions that *Nollan* and *Dolan* contemplate and allow.

The analysis will be different where a private utility services multiple jurisdictions. AEP, for example, is an investor-owned utility that serves electric customers in many municipalities in the Appalachian area.²³⁸ Today, without any action on the part of a municipal government, significant growth in Roanoke, Virginia could require AEP to make new investments in energy supply, and those costs would then be spread regionally among the rate-paying customer—both within and outside of Roanoke. Put differently, existing customers in Roanoke do not bear the full costs of those investments, because some of them can be spread to customers in areas with declining populations, such as Charleston, West Virginia. In effect, without any attention to energy by a municipality, some of the marginal costs of new development on energy supply and infrastructure can be externalized to customers in other municipalities.

In contrast, the costs of energy exactions are borne by developers, while the benefits are captured entirely by the local government even as the full costs of increased energy demand are shared more broadly. For example, under the hypothetical pricing proposed above, a new development creating 200,000 kWh of new energy demand will require the payment of a \$200,000 exaction to the local government, even though the costs of meeting that new demand will be borne partly by customers in other municipalities.²³⁹ These new revenues captured by the local government enable the community to pursue its own energy vision, though at the same time energy-system

²³⁷ More than 500 municipal utilities own 5 megawatts or more of power generation. See AM. PUB. POWER ASS'N, *supra* note 194, at 62. Municipal utilities provide 10% of the national power supply capacity and, together with rural cooperatives and federal power agencies (such as the Tennessee Valley Authority), "public power" generation capacity exceeds 20% of total U.S. power supply. *Id.* at 56.

²³⁸ AEP Service Territories, AM. ELEC. POWER, <https://www.aepnationalacounts.com/info/facts/serviceterritory.aspx> [<https://perma.cc/8AH3-J68P>] (last visited Sept. 26, 2018).

²³⁹ See *supra* subpart II.A.

costs embedded in utility rates might be borne by customers elsewhere who can no longer depend on that municipality's customer growth to subsidize a utility's rents.²⁴⁰ In this sense, exactions present a classic jurisdictional mismatch: Parochial imposition of energy exactions can create significant benefits (in terms of promoting grid reliability and addressing problems such as climate change) while also imposing impacts on customers beyond a municipality's jurisdictional footprint. In other words, the amount of the exaction may not be proportional to the *local* costs of increased energy demand.

As a doctrinal matter, however, it seems doubtful that the unconstitutional conditions doctrine constrains governments to consider only local effects in pursuing their energy values. The requirements of *Nollan* are easily met to the extent that energy exactions are related to the customer energy demand imposed by new development. It is *Dolan*'s proportionality requirement that proves more difficult, but *Dolan* itself is cryptic about the burdens to which the proportionality requirement applies. After distinguishing both more restrictive and more lax approaches to the unconstitutional conditions doctrine in state courts, the Supreme Court in *Dolan* adopted what it called an intermediate approach, requiring that "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."²⁴¹ That holding does not say that the exaction must be related to the *local* impact of the development and so does not appear to restrict exactions to address only localized burdens. In fact, one part of the exaction at issue in *Dolan* was a required dedication of a greenway for purposes of flood control along the Fanno Creek Basin.²⁴² The Fanno Creek is approximately 15 miles long and passes through Beaverton, Durham and some unincorporated areas in addition to Tigard, which had sought to impose the develop-

²⁴⁰ The problem persists even if developers minimize energy demands so as to minimize the extent of the energy exaction. At the extreme end, if a developer creates its own solar generation facility to create a truly net-zero project, the benefits are externalized to ratepayers in other municipalities who therefore do not have to bear a share of the cost of meeting the demand that otherwise would have increased.

²⁴¹ *Dolan v. City of Tigard*, 512 U.S. 374, 391 (1994).

²⁴² *See id.* at 388–89 ("The city required that petitioner dedicate 'to the City as Greenway all portions of the site that fall within the existing 100-year floodplain [of Fanno Creek] . . . and all property 15 feet above [the floodplain] boundary.'" (alterations in original) (quoting *Dolan v. City of Tigard*, 854 P.2d 437, 439 n.3 (Or. 1993) (en banc))).

ment exactions.²⁴³ Preventing flooding on the Fanno Creek would therefore have created benefits (or prevented future harms) beyond the borders of Tigard. In striking down the exaction, the Court criticized the absence of any finding by the government about how a greenway would impact flooding.²⁴⁴ The Court did not, however, indicate or imply that the extraterritorial benefits of flood control were a problem for the exaction or a limitation on the proportionality requirement. The energy exactions we propose will be related to the overall energy burdens of new development. If *Dolan's* requirement of rough proportionality does not mandate a jurisdictional fit, then there is no constitutional problem.

In this regard, energy exactions actually resemble conventional exactions for new development's transportation burdens. Municipalities will often impose impact fees or other forms of exactions to address traffic congestion or the burden of new development on mass transit.²⁴⁵ Upgrades to roads, intersections, or bus stops are familiar uses of municipal exactions.²⁴⁶ Of course, large-scale new development will often have region-wide impacts on transportation, and yet local governments can protect their parochial interests by improving local conditions while ignoring those regional costs. In other words, local governments can, without offending *Nollan* or *Dolan*, address local infrastructure burdens even if there are additional regional ones. Transportation infrastructure is admittedly different from the energy grid because traffic congestion is most acute near the development. The intensity of the infrastructure bur-

²⁴³ *About the Watershed*, CITY OF PORTLAND, OR., <http://www.portlandoregon.gov/BES/57717> [<https://perma.cc/D5JK-42XR>] (last visited Oct. 6, 2016).

²⁴⁴ *See Dolan*, 512 U.S. at 393 ("It is difficult to see why recreational visitors trampling along petitioner's floodplain easement are sufficiently related to the city's legitimate interest in reducing flooding problems along Fanno Creek, and the city has not attempted to make any individualized determination to support this part of its request.")

²⁴⁵ *See, e.g., Impact Fees: Development Impact Fees*, S.F. PLANNING DEP'T, <http://sf-planning.org/impact-fees> [<https://perma.cc/6EQN-UA2V>] (describing transit impact fees in San Francisco).

²⁴⁶ *See, e.g., SARA J. HENDRICKS & CECILIA DYHOUSE, CTR. FOR URB. TRANSP. RES., LAND DEVELOPER PARTICIPATION IN PROVIDING FOR BUS TRANSIT FACILITIES AND OPERATIONS iv* (2002), <https://depts.washington.edu/trac/concurrency/pdf/hendricks.pdf> [<https://perma.cc/US5N-AEQH>] ("[I]mpact fees are an available tool to secure transportation capital funds specifically resulting from land development activities."); CITY OF SANTA MONICA, TRANSPORTATION IMPACT FEE NEXUS STUDY (April 2012), <https://www.smgov.net/uploadedFiles/Departments/PCD/Transportation/Developers/Santa-Monica-Nexus-Study.pdf> [<https://perma.cc/L3JF-VJ7V>] (providing data justifying imposition of impact fees for transportation burdens); *see also Rosenberg, supra* note 1, at 205 n.100 (listing transit and transportation as common uses of impact fees).

dens decreases with distance. Not so with energy, where the burdens of new development within the municipality imposing the exaction are no different—either in kind or in degree—from the burdens in other municipalities within a utility’s service area. Nevertheless, there is nothing about the unconstitutional conditions doctrine that should prevent a local government from exacting the local costs of meeting energy demand, even if there are additional regional costs that remain unaffected.

Normatively, this is the right answer. As noted above, under the default approach to energy planning, many of the costs of a local development’s increased energy demand are borne regionally, including by some nonlocal customers. It would be a perverse constitutional rule that prevents a local government from addressing externalized costs by requiring a narrow, blinkered focus on only the local effects of development. If, in solving local problems, a municipality also addresses regional costs, that should not violate the “rough proportionality” required by *Dolan*.

Local governments can be further protected from a *Dolan* challenge if they require that any money received from an energy exaction regime be used to offset energy demands elsewhere in the municipality. Indeed, this is not only helpful for constitutional purposes; it reinforces the normative goal of reducing energy demand broadly. Otherwise, a municipality might just be profiting from the existence of the externalized costs of new energy demand instead of actually addressing it. Our ultimate objective in proposing municipal energy exactions is to reduce or eliminate the net increase in energy demand from new development. That can be done to a large extent on-site by implementing energy saving designs and technologies. But it can also be done off-site by using any exacted money to promote local energy savings. Exactions, for example, could be placed into a fund used to retrofit municipal buildings, to subsidize (through loans or grants) private investments in energy savings, or to develop community solar facilities, among many other options.²⁴⁷

These uses of exacted money are, of course, consistent with the values and policy preferences that would lead a municipality to adopt energy exactions in the first place. But they also help to satisfy the *Dolan* requirements by minimizing or even preventing net increase in energy demand from the municipality. Exactions are proportional to the energy burdens

²⁴⁷ See Kingsley, *supra* note 18, at 533 (proposing that money from “green building” impact fees be used to subsidize additional green building).

that a development imposes on a municipality if they allow a local government to preserve *status quo* energy demand by off-setting those burdens elsewhere.²⁴⁸

This addresses the interlocal concern about a jurisdictional mismatch between the collection of impact fees by a local government while the burdens of new energy demand are shared regionally. If the local government collecting the fees uses the money to net out the marginal increase in energy demand, then there will be no increased burden on the energy system as a whole. Extraterritorial energy consumers will not face rising rates, and the energy exaction—properly priced—will instead ensure that new development imposes no new energy system costs at all. That is, at least, the ultimate goal of the proposal.

CONCLUSION

We have shown how energy exactions present land-use regulators with an opportunity to capture a portion of the rents that traditional state-utility regulation bestows upon a private investor-owned utility. Rather than encouraging local governments to outsource energy supply and vesting exclusive control over every community's energy vision with a state-centered regulator, local energy exactions can produce valuable information about customer energy demand and its alternatives, diversify risks in energy infrastructure investment, and promote intergovernmental competition for the provision of underfunded public goods related to a community's energy future, including grid reliability and carbon reduction.

As land-use regulators endorse energy exactions, the possibility of new forms of rent-seeking should not be overlooked. But neither can we ignore how the conventional state utility-planning and rate-setting process often produces concentrated benefits for the few at the expense of the many, or how it has done a poor job of encouraging demand reduction, distributed energy supply, and a resilient energy grid. Our analysis of the problem suggests that land-use regulation is perfectly positioned to supplement traditional utility regulation. Rather

²⁴⁸ This goal of limiting new energy demand is entirely consistent with the commitments many local governments have made to continue to abide by the requirements of the Paris Agreement on Climate Change. See, e.g., Hiroko Tabuchi & Henry Fountain, *Bucking Trump, These Cities, States and Companies Commit to Paris Accord*, N.Y. TIMES, June 1, 2017, at A12, <https://www.nytimes.com/2017/06/01/climate/american-cities-climate-standards.html> [<https://perma.cc/TFM8-YXR7>] (describing, *inter alia*, cities' commitments to abide by Paris Agreement).

than the current default approach—which outsources local energy needs to a private utility operating across multiple communities and managed by a state regulator—energy law should encourage each locality to focus on how its own management and uses of land impact the energy system. In sum, energy exactions provide a unique, pragmatic, and valuable opportunity to integrate local community values into planning discussions concerning the energy grid, promoting demand reduction, and inviting new investments in low-carbon energy infrastructure.

