

A R T I C L E

Climate Exactions

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I. Introduction

Monetary exactions are a tool that can mitigate the environmental or other public harms of land development. Local governments commonly impose fees, or monetary exactions, on new development to offset public costs such development will impose, such as exacerbated traffic congestion. This Essay argues that monetary fees offer significant potential as a tool to help local governments manage land development's contribution to climate change. Such "climate exactions" can put a price on the carbon emissions attributable to new development, such as increased vehicle miles travelled by new residents of a car-dependent subdivision. They can also mitigate development that reduces the jurisdiction's natural resiliency to climate change. While no jurisdiction has yet imposed exactions to address such climate problems, exactions are commonly used to address other negative externalities and public service needs and provide a promising legal template for climate concerns.

II. Why "Climate Exactions"?

Land development can exacerbate climate change and its consequences. New development can increase a jurisdiction's greenhouse gas ("GHG") emissions in many ways, such as by locating new residences, workplaces, or retail in areas not served by public transit, leading to increased driving. Development also affects the land's ability to respond to the impacts of climate change. For example, structures like sea walls built to protect development from sea-level rise can damage beaches and wetlands, encourage even greater development behind the wall (increasing risks of catastrophic failure), and aggravate flooding and erosion of neighboring properties.¹ If we are to successfully address land development's role in climate change, we will have to address both its contributions to emissions and its effect on climate resilience.

Land development is regulated primarily at the local government level. In recent years, there has been substantial regulatory action at the federal and state levels to reduce emissions from large stationary sources² and vehicles.³ Although continuation of such initiatives at the federal level now appears doubtful, federal efforts will have little impact on the land use patterns that drive transportation decisions. Rather, local planning decisions influence these patterns: they influence where and how people travel. In addition to cleaner fuels and more efficient vehicles, reducing emissions from transportation requires reducing miles traveled by fossil fuel vehicles, which is heavily influenced by land development patterns and the availability of transit. Additionally, while stationary sources like power plants are already part of an existing national regulatory regime for air emissions and other pollutants, it is much harder to regulate emissions from many small, distributed sources of emissions like buildings and transportation, at the national (or even state) level.

Local governments, on the other hand, have significant experience employing land use tools to mitigate environmental concerns.⁴ Although local governments may want to take vigorous regulatory action to reduce emissions, aggressive prohibitions on development may expose them to liability for regulatory taking (and may not be desirable for other policy reasons like economic development goals).⁵ The costs of litigating regulatory takings claims—let alone paying large compensation awards—are daunting, and lawyers for property owners are well aware of this vulnerability.

One promising approach that has not yet been applied to carbon emissions or adaptation is the use of monetary

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1. JESSICA GRANNIS, ADAPTATION TOOL KIT: SEA-LEVEL RISE AND COASTAL LAND USE 6 (2011).

2. See, e.g., *Clean Power Plan: What EPA Is Doing*, U.S. ENVTL. PROT. AGENCY (July 17, 2015), <http://www2.epa.gov/carbon-pollution-standards/what-epa-doing>.
3. See, e.g., *Cars and Light Trucks: Vehicle Standards and Regulations*, U.S. ENVTL. PROT. AGENCY (Oct. 23, 2015), <http://www.epa.gov/otaq/standards.htm>.
4. See generally JOHN R. NOLON, PROTECTING THE ENVIRONMENT THROUGH LAND USE LAW: STANDING GROUND (2014).
5. Takings problems arising from regulatory efforts to adapt to climate change are discussed in J. Peter Byrne, *The Cathedral Engulfed: Sea-Level Rise, Property Rights, and Time*, 73 LA. L. REV. 69 (2012). See also James G. Titus, *Rising Seas, Coastal Erosion, and the Takings Clause: How to Save Wetlands and Beaches Without Hurting Property Owners*, 57 MD. L. REV. 1279 (1998).

exactions. Climate exactions could condition new development upon payment for its impact on greenhouse gas emissions or the jurisdiction's climate change resiliency and use the funds to mitigate the impact.

An exaction is a required conveyance to the government of money or real property in exchange for the grant of a discretionary development permit.⁶ The government then uses the property or money to mitigate some public harm from the proposed development. Today, despite decades of scholarly criticism,⁷ exactions are a ubiquitous feature of the development process, requiring conveyances or fees to remedy increased traffic, overburdened schools, and a growing lack of affordable housing, among myriad other needs. Exactions permit developments to go forward despite their generation of public harms because they provide the means to mitigate those harms.

In *Nollan v. California Coastal Commission*⁸ and *Dolan v. City of Tigard*⁹ the United States Supreme Court required that every exaction have an “essential nexus” with a public harm justifying regulation¹⁰ and that the value of the property exacted be “roughly proportional” to the degree of harm threatened by the proposed development.¹¹ So long as the requirements are met, the use of exactions to address public harms is permissible under *Nollan* and *Dolan*.

Monetary exactions have become a particularly important form of exaction. Rather than conveying to the government an interest in real property, the developer pays the government an equivalent in money, which the government then spends to mitigate the public harm attributable to the development.¹² These development impact fees can be assessed for a wider range of community needs than can land exactions.¹³

An important safeguard is that the funds collected must be segregated in an account that may be used only to mitigate the harm for which the money was exacted.¹⁴ Many jurisdictions have legislated schedules of impact fees, which provide generally applicable formulas or tables of monetary charges for specific types and scales of development.¹⁵ Developers may prefer monetary exactions, and legisla-

tive development fees in particular, to in-kind exactions as being more predictable and transparent.

In *Koontz v. St. Johns River Water Management District*, the Supreme Court held that the constitutional test for exactions applies to monetary exactions as well.¹⁶ Justice Alito's opinion in *Koontz* affirms the value of exactions more forcefully than any prior Court opinion: “Insisting that landowners internalize the negative externalities of their conduct is a hallmark of responsible land-use policy.”¹⁷

This Essay will argue that *Koontz* does not pose a significant barrier to the use of climate exactions. Rather, climate exactions fall squarely within the Court's approval of monetary exactions that mitigate public harms.¹⁸ They can be structured to avoid the undue “leverage” that the Court identified as the rights violation, and to operate with transparency. Indeed, climate exactions can be assessed following established formulas that provide objective calculation of proportionality.

III. Applying a “Climate Exaction”

This Section will suggest ways in which exactions might be used to address both emissions and loss of adaptive capacity caused by development.

A. Climate Exactions to Address GHG Emissions

In the emissions context, developers might be charged a climate exaction based on the calculated “emissions impact” of the development. For example, the development may be found to generate substantial new automobile travel and therefore increased emissions from driving. The jurisdiction could use a fee on these emissions to invest in infrastructure to encourage more walking and biking to offset the emissions caused by increased motor vehicle traffic. The jurisdiction might also use a fee to support energy efficiency programs to offset emissions caused by energy use in the new building itself. In either case, the use of a monetary exaction allows the jurisdiction to pool funds received from multiple projects to make broader infrastructure investments that benefit the community in ways that individual on-site mitigation projects could not.

I. Demonstrating an Essential Nexus for an Emissions Fee

Development fees offer the flexibility to identify the most cost effective mitigation investments wherever they occur.

6. See, e.g., Mark Fenster, *Takings Formalism and Regulatory Formulas: Exactions and the Consequences of Clarity*, 92 CALIF. L. REV. 609, 623–24 (2004).

7. See, e.g., Robert C. Ellickson, *Suburban Growth Controls: An Economic and Legal Analysis*, 86 YALE L.J. 385, 465–67, 510 (1977) (criticizing exactions as unfair and inefficient burdens imposed by cartels of current homeowners).

8. 483 U.S. 825 (1987).

9. 512 U.S. 374 (1994).

10. *Id.* at 386; *Nollan*, 483 U.S. at 837.

11. *Dolan*, 512 U.S. at 391.

12. See, e.g., *Sinclair Paint Co. v. State Bd. of Equalization*, 937 P.2d 1350, 1355 (Cal. 1997).

13. See JULIAN CONRAD JUERGENSMEYER & THOMAS. E. ROBERTS, *LAND USE PLANNING AND DEVELOPMENT LAW* 318–21 (3d ed. 2013).

14. See Ronald H. Rosenberg, *The Changing Culture of American Land Use Regulation: Paying for Growth With Impact Fees*, 59 SMU L. REV. 177, 228 (2006).

15. See JUERGENSMEYER & ROBERTS, *supra* note 13, at 319–22.

16. *Koontz v. St. Johns River Water Mgmt. Dist.*, 133 S. Ct. 2586, 2603 (2013). *Koontz* did not address whether the heightened scrutiny of *Nollan/Dolan* applies to legislatively scheduled impact fees. The analysis in this Essay assumes that *Nollan/Dolan* will apply to climate exactions.

17. *Id.* at 2595.

18. See *infra* Part III.

However, this flexibility may raise questions about whether a geographically distant mitigation project bears a strong enough nexus to the impact caused by the development. GHG emissions may offer a clearer nexus between impact and mitigation activity than other measures, even if the mitigation project occurs elsewhere in the jurisdiction.

Courts have been flexible with the scope of the nexus, as long as one can be demonstrated.¹⁹ For a fee imposed to mitigate a development's GHG emissions, the location of the mitigation project and the source of emissions reduced matter less than a fee based on infrastructure demand. Because climate change is a global problem, and GHGs mix uniformly in the atmosphere, emissions increases in one part of town can be "offset" by emissions reductions elsewhere.

A local government provides a logical boundary within which to reduce net emissions.²⁰ In communities with jurisdictionwide GHG emissions reduction goals the local government aligns with the geographic area in which mitigation strategies would occur, providing for a relatively straightforward administration of the program. Economically, it can be far more affordable to achieve GHG reductions across a wider geographic area than in a facility-by-facility manner.²¹ By pooling mitigation fees the jurisdiction can make the best use of funds by directing them to the most cost-effective reduction opportunities. As long as the community identifies a governmental interest in reducing GHG emissions,²² and assures that the fees will be spent to reduce emissions within the jurisdiction, the nexus test would be satisfied.²³

2. Demonstrating Rough Proportionality for an Emissions Fee

In order to pass the rough proportionality test, local officials would have to show that approximately the same level of emissions would be reduced by the mitigation effort as would be increased by the development project.

A strategy that quantified GHG emissions resulting from the traffic impacts of a development would most closely resemble the impact fees local governments currently impose. However, there is no legal reason to limit the emissions analysis to the gases resulting from transportation, as long as a nexus can be shown between the mitigation strategy and the development. Therefore, local officials might also calculate the contribution that the

development makes to emissions from its energy use or other sources.

a. Rough Proportionality: Transportation Emissions

It is relatively easy to quantify the GHG emissions associated with increased traffic, and even to estimate the reductions that could be achieved by investing in bicycling and walking infrastructure. Planners already estimate the traffic impacts of new development in order to establish uncontroversial development fees to improve road infrastructure. Travel demand forecasting models analyze the impacts of a given development project on the transportation system.²⁴ In order to calculate the GHG emissions associated with that travel, the travel forecast can then be fed into a transportation GHG modeling tool, such as the EPA's MOVES ("Motor Vehicle Emissions Simulator").²⁵

Traditional transportation impact fees use metrics like level of service ("LOS"), which identify the infrastructure service the local government will provide the community (e.g., x miles of road per capita), and then impose a fee on the development to cover the incremental infrastructure needed to maintain that LOS.²⁶ Recently, some progressive jurisdictions have started to develop multi-modal LOSs in addition to automobile-focused LOSs.²⁷ However, using GHGs instead of some version of LOS might simplify the calculation and the legal analysis by providing a standard metric that applies to all projects and mitigation efforts.²⁸

b. Rough Proportionality: Nontransportation Emissions

The prototypical development fee addresses a development's impact on traffic. However, if the concern is GHG emissions, any given development will also be responsible for emissions from its own energy use, and jurisdictions might consider requiring developers to offset these emissions as well. There is precedent for development fees to support green building initiatives. Arlington County, Virginia, imposes a fee on development projects to support the coun-

19. *Id.* at 875.

20. See, e.g., *Local Examples of Climate Action*, U.S. ENVTL. PROT. AGENCY, <http://www3.epa.gov/statelocalclimate/local/local-examples.html> (last visited Dec. 16, 2015).

21. A. DENNY ELLERMAN ET AL., PEW CTR. ON GLOBAL CLIMATE CHANGE, EMISSIONS TRADING IN THE U.S.: EXPERIENCE, LESSONS, AND CONSIDERATIONS FOR GREENHOUSE GASES iii (2003), <http://www.c2es.org/publications/emissions-trading-us-experience-lessons-and-considerations-greenhouse-gases>.

22. U.S. ENVTL. PROT. AGENCY, *supra* note 20.

23. To demonstrate that the nexus is truly in place, it would likely be important for communities to isolate funds collected for a given impact. See *supra* Part II.

24. ICF CONSULTING, ASSESSMENT OF GREENHOUSE GAS ANALYSIS TECHNIQUES FOR TRANSPORTATION PROJECTS 21 (2006), [http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25\(17\)_FR.pdf](http://onlinepubs.trb.org/onlinepubs/archive/NotesDocs/25-25(17)_FR.pdf).

25. U.S. ENVTL. PROT. AGENCY, USING MOVES FOR ESTIMATING STATE AND LOCAL INVENTORIES OF ON-ROAD GREENHOUSE GAS EMISSIONS AND ENERGY CONSUMPTION 5 (2012), <http://www.epa.gov/otaq/stateresources/420b12068.pdf>.

26. PETER N. BROWN & GRAHAM LYONS, CITY ATTORNEYS DEPT., LEAGUE OF CAL. CITIES, A SHORT OVERVIEW OF DEVELOPMENT IMPACT FEES 7-9 (2003), http://www.ca-ilg.org/sites/main/files/file-attachments/resources_overviewimpactfees.pdf.

27. Sarah Peters, Impact Fees for Complete Streets: A Comprehensive Project Submitted in Partial Satisfaction of the Requirements for the Degree Master of Arts in Urban Planning 3 (2012) (unpublished M.A. thesis, University of California, Los Angeles), http://164.67.121.27/files/Lewis_Center/CompleteStreetsInitiative/Peters_report.pdf.

28. See, e.g., Letter from Amanda Eaken, Deputy Dir. Sustainable Communities, & Justin Horner, Policy Analyst, NRDC, to Christopher Calfee, Senior Counsel, Governor's Office of Planning and Research (Feb. 13, 2014), http://www.opr.ca.gov/docs/NRDC_LOS2-13.pdf.

ty's green building educational fund; and Eagle County, Colorado rebates permit fees for residential projects that exceed green building standards, and they imposes additional fees on projects that do not.²⁹ Prof. Carl Circo has proposed greater use of this tool to promote energy efficient buildings, on the ground that green building projects "serve the public health and general welfare in the same way that environmental regulations do."³⁰ However, as with transportation, GHG emissions provide another tool to encourage energy efficiency, and with an already standardized metric. Conveniently, GHG emissions from building energy consumption are even easier to calculate than induced transportation emissions.

The "Greenhouse Gas Protocol," an accounting framework developed by nongovernmental organizations that serves as the foundation for nearly every GHG reporting standard in the world,³¹ identifies three "scopes" of emissions³²: direct emissions from a facility³³; emissions from purchased electricity, heat, or steam produced off-site³⁴; and other "indirect" emissions, which would include the travel-demand-related emissions discussed above.³⁵ The protocol provides guidance for quantifying these different types of emissions, including emissions associated with a particular project, and could be used to calculate an exaction level roughly proportional to emissions resulting from development.³⁶

3. Proposed Frameworks for Calculating an Emissions Fee

The authors are not aware of any jurisdictions that have imposed a fee on a development project to mitigate its GHG emissions. However, the consideration of a few alternative approaches suggests one potential methodology.

It might be tempting for a jurisdiction to attempt to quantify the societal cost of GHG emissions, and then charge the developer this amount to truly internalize the full cost of the emissions released by a given development.³⁷ However, it would be hard to argue that the local jurisdiction bears all of these costs and therefore that there is a clear nexus between this level of fee and the local government interest harmed by the development. There is also considerable debate about what the appropriate level

of the social cost of carbon should be, and the issue is very politically charged.³⁸ For these reasons, the social cost of carbon may not be the best fit for calculating local development fees.

An alternative approach would involve quantifying the emissions resulting from a given project and then identifying the local cost to achieve the same level of reduction, which avoids the challenging economic modeling exercise and maintains a clear nexus. Project costs may vary, and calculations will have to assume a baseline level of emissions that would have occurred in the absence of the project. However, the fee must only be roughly proportional (not a "precise mathematical calculation"³⁹), allowing the jurisdiction to estimate a reasonable local cost and determine fees accordingly.

B. Climate Exactions for Climate Adaptation

In the adaptation context, a climate exaction could take multiple forms. Most simply, it could require that existing environmental impact fees take into account the effect that climate change will have on the relevant impact. A more challenging but valuable version of this strategy would also quantify and mitigate any loss in adaptive capacity caused by the development, such as a project that made it harder for a wetland to migrate with rising sea levels.

1. Demonstrating Essential Nexus for an Adaptation Fee

A mitigation fee approach is already used to require developers causing a loss of wetlands to mitigate the loss on- or off-site, and fees in lieu of mitigation may be imposed.⁴⁰ *Koontz* involved this type of exaction, and the Court found in Mr. Koontz's favor because the local government failed to correctly apply the Nolan/Dolan test to the fee imposed.⁴¹

2. Demonstrating Rough Proportionality for an Adaptation Fee

Quantifying a project's impact on climate resilience may be more difficult, given complications regarding timing and uncertainty of future projections. In California, the Coastal Commission already charges mitigation fees to offset the impacts of private seawalls on beaches. Owners of the Ocean Harbor House Condominium in Monterey, California requested a permit to build a 585-foot seawall

29. Carl J. Circo, *Should Owners and Developers of Low-Performance Buildings Pay Impact or Mitigation Fees to Finance Green Building Incentive Programs and Other Sustainable Development Initiatives?*, 34 WM & MARY ENVTL. L. & POL'Y REV. 55, 73 (2009).

30. *Id.* at 77.

31. *About the GHG Protocol*, GREENHOUSE GAS PROTOCOL, <http://www.ghg-protocol.org/about-ghgp> (last visited Dec. 16, 2015).

32. GREENHOUSE GAS PROTOCOL, A CORPORATE ACCOUNTING AND REPORTING STANDARD 25 (rev. ed. 2004), <http://www.ghgprotocol.org/files/ghgp/public/ghg-protocol-revised.pdf>.

33. *Id.*

34. *Id.*

35. *Id.*

36. GREENHOUSE GAS PROTOCOL, THE GHG PROTOCOL FOR PROJECT ACCOUNTING (2005), http://www.ghgprotocol.org/files/ghgp/ghg_project_protocol.pdf.

37. See *Koontz v. St. Johns River Water Mgmt. Dist.*, 133 S. Ct. 2586, 2595 (2013).

38. See, e.g., PETER HOWARD, OMITTED DAMAGES: WHAT'S MISSING FROM THE SOCIAL COST OF CARBON (2014), http://costofcarbon.org/files/Omitted_Damages_Whats_Missing_From_the_Social_Cost_of_Carbon.pdf; Andrew Childers, *Putting a Social Price on Carbon. Is \$37 a Ton Adequate?*, BLOOMBERG (BNA) ENERGY & ENV'T BLOG (Feb. 28, 2014), <http://www.bna.com/putting-social-price-b17179882522/>.

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

40. U.S. ENVTL. PROT. AGENCY, EPA-843-F-08-002, WETLANDS COMPENSATORY MITIGATION, http://www.epa.gov/sites/production/files/2015-08/documents/compensatory_mitigation_factsheet.pdf.

41. *Koontz*, 133 S. Ct. at 2597–98.

to protect the complex.⁴² As a condition of the permit, the Coastal Commission imposed a \$2.15 million beach impact fee and dedication of public beach access through a parking lot in the complex based on the *historical* rate of erosion and the recreational value of the beach.⁴³ The court upheld this fee under *Nolan/Dolan*.⁴⁴

In an adaptation context, however, regulators may need to reconsider how they calculate the beach fee in the following ways:

- (1) Erosion rates are likely to increase as sea levels rise, so regulators may need to project *future* erosion rates over the life of the project to adequately mitigate the impacts.
- (2) Beaches and natural shorelines provide important flood risk reduction benefits that will become increasingly important to communities as the climate changes.⁴⁵ With development, these resources will be unable to migrate inland to avoid erosion from rising sea levels.

Regulators should account for ways that climate change will affect the currently calculated impacts (e.g., recreation) of a development in the future, as well as how the project may exacerbate future risks of climate change impacts to neighboring properties. As this example shows, rough proportionality for adaptation may require more of a risk-mitigation analysis, which may be harder to calculate and monetize than GHG emissions are. The amount of an adaptation fee probably should be discounted to reflect that it addresses climate harms that will occur at an uncertain time in the future. Finally, as in the emissions discussion above, the requirement is only that the jurisdiction demonstrate *rough* proportionality, not a precise mathematical calculation.

IV. Addressing Critiques

We can anticipate some concerns about our proposal for climate exactions. An immediate objection may be that such exactions would unduly raise the costs of housing. When the measure of an exaction is known to a developer before initiating a project, the landowners will bear the costs of the exaction because developers will pay the landowners less for their land.⁴⁶ Lower prices for land may decrease the amount of land available for development. But given that development of such a parcel will impose costs on all from GHG emissions or weakened resilience, it seems both efficient and fair for the exaction to discourage development of the site.

In some circumstances, the costs of an exaction likely will be passed on to purchasers in the form of higher real

estate prices.⁴⁷ If the exaction is used to benefit the site (e.g., zero-emission bus line to the burdened site), a higher price paid could be appropriate because the development will be more valuable due to the added public infrastructure. However, if the municipality funds the bus line elsewhere within the jurisdiction, then the cost of the burdened parcel will rise without any increase in value. This may be justified as a strategy to discourage development at a site that will create large new emissions and encouraging new development where climate impacts will be smaller.

Some may express concern that local governments are not the proper level of government to impose regulations directed at reducing GHG emissions. Of course, the federal government has exclusive authority to regulate emissions from motor vehicles, with a notable statutory exception for California, and co-regulates emissions from power plants along with the states.⁴⁸ But local land use regulations do not regulate tailpipe or building emissions or gas mileage; rather, they are the chief tool available to reduce vehicle miles traveled, which has an obvious and independent effect on emissions. Moreover, local governments are able to provide alternatives to automobile travel, by providing bicycle and pedestrian options and developing public transit, and they implement the building codes that drive the energy consumption of new buildings. In addition, preparing for the impacts of climate change is an inherently local concern, as sea-level rise, increased storms, or urban heat will affect each jurisdiction according to its own location and presence of features to mitigate these effects. There seems to be no reasonable argument that climate exactions or other land use regulations aimed at reducing emissions or responding to the impacts of climate change are preempted by federal law.⁴⁹ On the contrary, the Supreme Court has often stated that land use regulation is primarily entrusted to state and local governments and has even read federal authority narrowly to preserve local authority.⁵⁰

47. See Rosenberg, *supra* note 14, at 211.

48. 42 U.S.C. §7543 (2012). 42 U.S. Code §7411.

49. In *American Electric Power Co. v. Connecticut*, the United States Supreme Court held “that the Clean Air Act and the EPA actions it authorizes displace any federal common law right to seek abatement of carbon-dioxide emissions from fossil-fuel fired power plants.” 131 S. Ct. 2527, 2537 (2011). Although the Court did not address whether the Clean Air Act also preempts state claims based on GHG emissions, *id.* at 2540, other courts have held that it does not. *E.g.*, *Bell v. Cheswick Generating Station*, 734 F.3d 188, 190 (3d Cir. 2013). But even if the Clean Air Act does preempt state and federal tort claims against power plants, the scope of the Act’s preemption would not reach local land use regulations, because the Clean Air Act only preempts state action to the extent that the EPA is regulating at the national level. Current EPA GHG regulations under the CAA address vehicle tailpipe emission rates and power plant emission rates, not land-use patterns that lead to greater use of fuels. In contrast, other state actions have been expressly preempted by the Clean Air Act. For example, states are prevented from adopting or attempting to enforce standards relating to the control of emissions from new motor vehicles or new motor vehicle engines, 42 U.S.C. §7543(a), although even in this case, the Act also explicitly allows the state of California to seek a waiver to this provision, 42 U.S.C. §7543(b), and allows other states to adopt California’s standards. 42 U.S.C. §7507.

50. See, e.g., *Solid Waste Agency of N. Cook Cty. v. U.S. Army Corps of Eng’rs*, 531 U.S. 159, 174 (2001) (finding that construction of Clean Water Act to permit federal jurisdiction over abandoned sand and gravel pit “would result in a significant impingement of the States’ traditional and primary power

42. *Ocean Harbor House Homeowners Ass’n v. Cal. Coastal Comm’n*, 77 Cal. Rptr. 3d 432, 43 (Cal. Ct. App. 2008).

43. *Id.* at 439.

44. *Id.* at 450.

45. See, e.g., FLA. STAT. ANN. §163.3178 (West 2015).

46. See Vicki Been, *Impact Fees and Housing Affordability*, 8 CITYSCAPE: A J. POL’Y DEV. & RES. 139, 153 (2005).

Similarly, the reality that climate change is a planetary problem, meaning that local emissions contribute to harm globally, should not preclude local efforts to reduce local emissions. Local emissions contribute to aggregate global emissions, which impose both global and local harms. Local governments have jurisdiction over local land development; no global entity can address emissions from such local development. Climate exactions do not attempt to regulate any economic activity outside of the regulating jurisdiction; for example, they neither discriminate against nor burden interstate commerce.⁵¹

Emissions reductions achieved by one local government could have little effect if other localities continue to grow emissions at historic levels. However, local government initiatives such as climate exactions may lead to broader collaboration on difficult climate problems, because local governments motivated to address climate issues will not place themselves at a short-term comparative economic disadvantage if acting in concert with other localities. In addition, coordination of climate land use regulations within metropolitan regions, among states, and even internationally could create a more efficient regulatory structure with greater benefits. Concern about climate change has led to novel efforts among states and localities to coordinate land use to adapt to effect greater reductions of GHGs.⁵² Successful climate policy measures often bubble up from lower levels of government rather than emerging from top down directives.⁵³

V. California: A Compelling Candidate for Climate Exactions

In addition to the constitutional permissibility of climate exactions, a key question is whether a jurisdiction has the legal and technical capacity to undertake this approach. Environmental protection statutes at the state level could provide tools for a jurisdiction to impose a GHG mitigation fee.⁵⁴ Some state environmental policy acts also incorporate climate change explicitly,⁵⁵ and perhaps these states

are well suited to creating local development policies to reduce emissions.

The State of California might be an excellent place to explore climate exactions, for a number of reasons. First, California is one of the states with its own state-level environmental protection statute, the California Environmental Quality Act (“CEQA”).⁵⁶ CEQA does not independently authorize a jurisdiction to impose exactions on developers, but it does provide that:

[a] lead agency for a project has authority to require feasible changes in any or all activities involved in the project in order to substantially lessen or avoid significant effects on the environment, consistent with applicable constitutional requirements such as the ‘nexus’ and ‘rough proportionality’ standards established by case law.⁵⁷

Most importantly, CEQA now requires that California agencies analyze the GHG emissions of proposed projects and reach a conclusion regarding the significance of those emissions.⁵⁸ The analysis must include the project’s potential energy use, including transportation-related energy, and ways to reduce energy demand⁵⁹; agencies also must consider potential mitigation measures to reduce those emissions.⁶⁰ A GHG mitigation fee would be well aligned with this direction to consider mitigation measures, particularly if the fee were included in a local climate action plan.

Second, California has a particularly acute local government funding challenge, increasing jurisdictions’ dependence on development fees.⁶¹ The GHG mitigation fee would create a new funding source for emissions reduction or climate adaptation projects.

Finally, California has already been a leader on the development of innovative laws and policies to address climate change.⁶² It enacted S.B. 375, requiring the state to set regional targets for GHG reductions from passenger vehicles, and requiring metropolitan planning organizations to prepare a Sustainable Communities Strategy (“SCS”) as part of their Regional Transportation Plans.⁶³ S.B. 375 could also provide a framework for incorporating GHG mitigation fees into an SCS. The fee could, in turn, provide the mechanism to implement the plan and achieve the goals of S.B. 375, rather than stopping at the planning stage for lack of funding. This approach would also offer developers a streamlined approval process from the incentives provided in the legislation.

over land and water use”); *Hess v. Port Auth. Trans-Hudson Corp.*, 513 U.S. 30, 44 (1994).

51. *Cf. Rocky Mountain Farmers Union v. Corey*, 730 F.3d 1070, 1107 (9th Cir. 2013), *cert. denied*, 134 S. Ct. 2875 (2014) (finding that California low carbon fuel standard does not discriminate against interstate commerce).

52. *See, e.g., Southeast Florida Regional Climate Change Compact*, <http://www.southeastfloridaclimatcompact.org/>; *Transportation and Climate Initiative of the Northeast and Mid-Atlantic States*, <http://www.transportationandclimate.org> (last visited Jan. 31, 2016).

53. For example, current federal vehicle GHG standards build on standards established by California and followed by other states under §177 of the Clean Air Act. Likewise, the Clean Power Plan recently finalized by the EPA builds on existing state-level limits.

54. *See, e.g., Michael B. Gerrard, Climate Change and the Environmental Impact Review Process*, 22 NAT. RES. & ENV’T, Winter 2008, at 20, 24 (discussing the extent to which state and federal environmental reviews consider climate change in their analyses).

55. *ELA Guidelines for Assessing the Impact of a Project on Climate Change*, SABIN CENTER FOR CLIMATE CHANGE LAW, <http://web.law.columbia.edu/climate-change/resources/nepa-and-state-nepa-eis-resource-center/environmental-assessment-protocols-consideration-climate-change#StateGuidelines> (last visited Jan. 31, 2016).

56. *See* CAL. PUB. RES. CODE §§21000-165 (West 2007).

57. CAL. CODE REGS. tit. 14, §15041(a) (2015).

58. CAL. CODE REGS. tit. 14, §15064.4 (2015).

59. CAL. CODE REGS. tit. 14, app. F.

60. CAL. CODE REGS. tit. 14, §15126.4(c).

61. *See, e.g., Jeffrey I. Chapman, Pub. Pol’y Inst. of Cal., Proposition 13: Some Unintended Consequences* 11 (1998), http://www.ppic.org/content/pubs/op/OP_998JCOP.pdf.

62. The political elements contributing to California’s strong support for policies addressing climate change are analyzed insightfully in Eric Biber, *Cultivating a Green Political Climate: Lessons for Climate Change Policy From the Defeat of California’s Proposition 23*, 66 VAND. L. REV. 399 (2013).

63. Sustainable Communities and Climate Protection Act of 2008, S.B. 375, 2008 Leg., 2007–08 Sess. (Cal. 2008), http://www.leginfo.ca.gov/pub/07-08/bill/sen/sb_0351-0400/sb_375_bill_20080930_chaptered.pdf.

Other state bills have been met with considerable political opposition, being characterized as attempts by the state to take land use decisions away from local government.⁶⁴ Although emissions mitigation fees may be met with political opposition, but they would remain in the hands of local officials and planners, which might make them more politically palatable than more state-driven approaches.

VI. Conclusion

The imposition of fees on developers to mitigate GHG emissions offers several benefits to local governments concerned with meeting the *Nollan* and *Dolan* tests. First, it may actually be easier to apply these tests to monetary fees than to physical dedications of property, whose value may be harder to calculate and demonstrate as roughly proportional. Second, GHGs provide a consistent metric for which there are standard methodologies to calculate. Based on this analysis, there is no constitutional barrier to local governments imposing a fee on developments in order to mitigate GHG emissions.⁶⁵ However, barriers still exist: a fee enabling act may be required due to state-level restrictions, and political opposition may weigh against the policy.

A. Challenges

In difficult economic times, jurisdictions are often wary of not being sufficiently welcoming of new development. Rather than imposing new fees, some jurisdictions waive or defer existing impact fees to court economic development.⁶⁶ Political inertia is a factor as well, and the GHG mitigation fee idea is a relatively new one. Additionally, although GHGs may provide a more transparent method

for connecting new development to the need for alternative transportation infrastructure, it may be more expedient to stick with traffic impacts as the basis for the fee, if only to avoid a political battle.

B. Opportunities

On the other hand, jurisdictions interested in adopting strategies to address GHG emissions should consider a mitigation fee placed on new development. It provides a source of funding for implementation of climate goals, and ties the cost for any given development to the impact of that specific development. The funding aspect of this strategy is worth additional emphasis—to the extent that state and federal gasoline taxes fund transportation projects, those sources of funds are already inadequate to meet spending obligations,⁶⁷ and will decline even further if climate change policies reduce GHG emissions by decreasing fuel consumption.⁶⁸ A GHG mitigation fee would put the power to manage GHGs—and to pay for them—in the hands of local governments.

Given the *Koontz* decision, the safest approach for a jurisdiction is to design a fee program that applies to developers broadly rather than ad hoc, as well as to meet the *Nollan* and *Dolan* tests. This approach should be workable in the case of GHG emissions mitigation given the availability of standardized quantification tools and methodologies.

Jurisdictions that may have struggled to justify transportation impact fees based on other metrics may find that applying a GHG emissions lens to the analysis reveals both an essential nexus and a rough proportionality that might otherwise be difficult to demonstrate. For these communities a GHG mitigation fee may offer a viable strategy to address emissions reductions in local land use decisionmaking.

64. See, e.g., Lawrence J. McQuillan, *Good News! SB 1 Dies (For Now)*, IN-DEP. INST., THE BEACON (Sept. 25, 2013, 5:26 PM), <http://blog.independent.org/2013/09/25/good-news-sb-1-dies-for-now/>; Stephen Frank, *Senate Bill 1: Good Bye California Republic, Hello California "Soviet Socialist" Republic or the "CSSR" for Short*, AGENDA 21 RADIO (Aug. 12, 2013), <http://agenda21radio.com/?p=697>; Damien Newton, *Gov. Brown Could Sign Bill to Help Finance Sustainable Development in CA*, STREETS BLOG (Aug. 9, 2013), <http://la.streetsblog.org/2013/08/09/gov-brown-could-sign-bill-to-help-finance-sustainable-development-in-ca/>.

65. Some states require that an expenditure of a monetary exaction must directly benefit the land charged for the impact fee. See, e.g., *Volusia Cty. v. Aberdeen at Ormond Beach*, L.P., 760 So. 2d 126 (Fla. 2000). While these states apply the rule to impact fees for construction of public capital projects, they do not seem to apply the rule to monetary exactions designed to mitigate environmental harms. Even if they did, climate exactions to mitigate emissions do directly benefit residents of the burdened development as much as other residents. For exactions to address loss of adaptive resilience, however, the analysis might require the adaptation measures to benefit the burdened residents, so that investments to increase the community's adaptive capacity would need to protect and serve the development, although not exclusively.

66. See, e.g., *Development Impact Fee Deferral Program*, CITY OF ELK GROVE, http://www.elkgrovecity.org/city_hall/departments_divisions/economic_development/incentive_programs/development_impact_fee_deferral_program (last visited Dec. 18, 2015).

67. CONG. BUDGET OFF., THE HIGHWAY TRUST FUND AND THE TREATMENT OF SURFACE TRANSPORTATION PROGRAMS IN THE FEDERAL BUDGET 5 (2014), <https://www.cbo.gov/sites/default/files/113th-congress-2013-2014/reports/45416-TransportationScoring.pdf>.

68. See, e.g., Pacyniak et al., *Reducing Greenhouse Gas Emissions From Transportation: Opportunities in the Northeast and Mid-Atlantic*, GEORGETOWN CLIMATE CENTER 15 (2015), http://www.georgetownclimate.org/sites/www.georgetownclimate.org/files/GCCReducing_GHG_Emissions_from_Transportation-11.24.15.pdf.