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Beyond Gas Bans

Alternative Pathways to Reduce Building Emissions in Light of State Preemption Laws

Guarini Center
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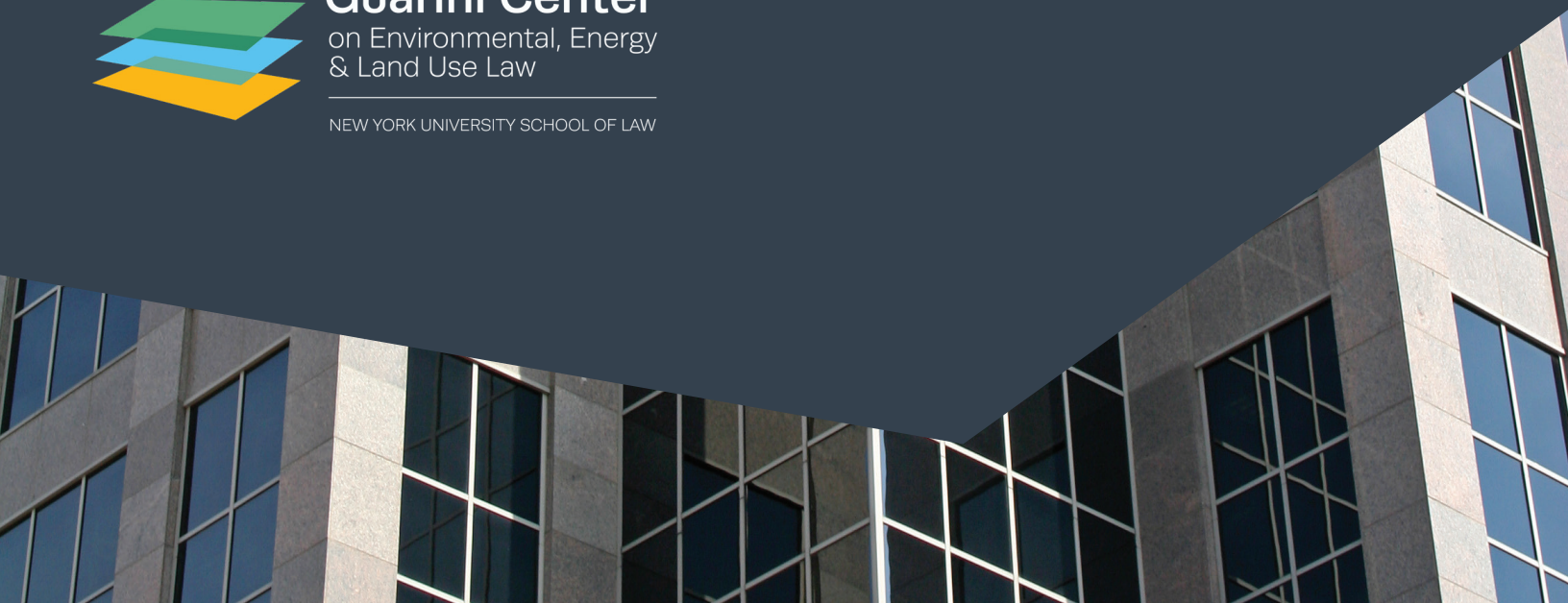
NEW YORK UNIVERSITY SCHOOL OF LAW



POLICY PAPER

Beyond Gas Bans: Alternative Pathways to Reduce Building Emissions in Light of State Preemption Laws

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I. Introduction

Since 2005, the United States has experienced an overall decline in net greenhouse gas emissions.[1] Emissions from the buildings sector, however, have declined more slowly than emissions from others: by 2020, U.S. net building emissions had declined only 5% from 1990 levels, and building emissions due to the on-site combustion of fossil fuels actually had *increased* compared to 1990 levels, by 2%.[2] Over the coming decade, increased ambition and action to reduce buildings' emissions are critical for avoiding severe climate change outcomes. On-site and indirect emissions from buildings are the fourth largest category of greenhouse gas emissions in the U.S. overall,[3] and in dense urban areas buildings often constitute the largest single source of greenhouse gases.[4] Without policies that significantly reduce buildings' direct and indirect greenhouse gas outputs, the U.S. cannot keep pace with the decarbonization trajectory necessary to achieve either the Paris Agreement's 1.5°C or 2°C temperature targets.

On-site fossil fuel combustion in residential and commercial buildings not only significantly contributes to climate change, but also has substantial negative effects on public health. As of 2018, the byproducts of buildings' fossil fuel combustion were the leading cause of premature deaths associated with interstate air pollution.[5] In addition to their effects on outdoor air, gas-powered appliances (such as cooking stoves) often are significant contributors to poor indoor air quality,[6] which in turn harms lung health in both children and adults

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1 Alfredo Rivera *et al.*, Rhodium Grp., ***Preliminary US Greenhouse Gas Emissions Estimates for 2021*** (Jan. 10, 2022).

2 U.S. Envtl. Prot. Agency, ***Sources of Greenhouse Gas Emissions: Commercial and Residential Sector Emissions***, (last visited Sept. 27, 2022). In addition to producing greenhouse gas emissions through combustion, appliances that use methane gas as a fuel source additionally contribute to climate change by leaking their fuel while off. *See, e.g.*, Eric D. Lebel *et al.*, ***Methane and NOx Emissions from Natural Gas Stoves, Cooktops, and Ovens in Residential Homes***, 56 Envtl. Sci. & Tech. 2529 (2022) (estimating that methane gas-fired stoves emit 0.8–1.3% of their fuel as unburned methane, and concluding that "annual methane emissions from all gas stoves in U.S. homes have a climate impact comparable to the annual carbon dioxide emissions of 500,000 cars," which is a greater impact than estimated by the U.S. Environmental Protection Agency).

3 U.S. Envtl. Prot. Agency, *Sources of Greenhouse Gas Emissions: Commercial and Residential Sector Emissions*, *supra* n.2. Indirect emissions include emissions attributable to the electricity consumed in buildings, when generated by fossil fuel-fired power plants; it does not include emissions attributable to transportation use. *Id.*

4 Danielle Spiegel-Feld & Katrina Wyman, *Building Better Building Performance Standards*, 52 Envtl. L. Rev. 10268, 10269–70 (2022).

5 Irene C. Dedoussi *et al.*, ***Premature Mortality Related to United States Cross-State Air Pollution***, 578 Nature 261, 262–63 (2020) (finding, in relevant part, that premature deaths due to cross-state air pollution generated by the buildings sector's combustion emissions were twice those attributable to the cross-state air pollution generated by the power sector in 2018, and that between 2005 and 2018 "electric power generation change[d] from being the second most important emission sector to the fourth, while commercial/residential emissions [went] from fourth to first, responsible for 37% of the summed early deaths attributable to combustion emissions in 2018").

6 *See, e.g.,* Yifang Zhu *et al.,* UCLA Fielding Sch. of Pub. Health, Effects of Residential Gas Appliances on Indoor and Outdoor Air Quality and Public Health in California 20–22, 25 (Apr. 2020) (finding, in relevant part, that when gas-fired stoves and ovens are used simultaneously, kitchens experience nitrogen dioxide concentrations that exceed California state air quality standards more than 90% of the time; that stove use alone produces nitrogen dioxide concentrations greater than national air quality standards more than 80% of the time; and that hazardous pollutant concentrations in kitchens are most acute in small residences like apartments).

(among other negative health outcomes).[7] Efforts to reduce emissions from the on-site combustion of fossil fuels thus can be a net positive on multiple policy fronts.

At the federal level, opportunities and incentives to advance emissions reductions from buildings have expanded in 2022 due to the passage of the Inflation Reduction Act ("IRA"), which aims in significant part to speed the nation's transition to carbon-free energy sources through direct spending and tax credits.[8] Local governments have opportunities to support the IRA's policy goals both by participating in IRA-funded grant programs for which they are eligible and by implementing local measures that bolster other IRA subsidies. However, many municipalities have seen their powers to steer building decarbonization curtailed in recent years. Notably, between 2020 and 2021, 20 states with Republican dominated or controlled state governments passed laws that limited local governments' authority to regulate the installation or use of natural gas infrastructure in the wake of Berkeley, California's pioneering 2019 ordinance banning the installation of natural gas infrastructure in most new buildings.[9] These laws—sometimes referred to as "bans on bans"—vary considerably in scope. Some laws appear to prevent municipalities only from implementing bans on new fuel gas infrastructure like the one adopted by Berkeley;[10] others appear to reach much further.[11] At a minimum, however, all of these laws create policy complexity and chill municipal efforts to improve building quality and public health.[12]

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7 *See, e.g.*, Weiwei Lin et al., ***Meta-Analysis of the Effects of Indoor Nitrogen Dioxide and Gas Cooking on Asthma and Wheeze in Children***, 42 Int'l J. of Epidemiology 1724 (2013) (finding that "that children living in a home with gas cooking have a 42% increased risk of having current asthma, a 24% increased risk of lifetime asthma and an overall 32% increased risk of having current and lifetime asthma"); *see also* Yu Ann Tan and Bomee Jung, RMI, Decarbonizing Homes: Improving Health in Low-Income Communities through Beneficial Electrification 15–17 (Oct. 2021) (summarizing research on health effects of indoor fossil fuel combustion).

8 Pub. L. No. 117-169, 136 Stat. 1818 (2022). For an analysis of the law's effects on U.S. emissions overall, see John Larsen *et al.*, Rhodium Grp., ***A Turning Point for US Climate Progress: Assessing the Climate and Clean Energy Provisions in the Inflation Reduction Act*** (Aug. 12, 2022).

9 Ala. Code § 37-18-2; Ariz. Rev. Stat. Ann. §§ 9-467, 9-810, 11-321, 11-867; Ark. Code Ann. § 14-1-105; Fla. Stat. § 366.032; Ga. Code Ann. § 46-1-6; Ind. Code § 8-1-2-101.2; Iowa Code § 331.301(18); Kan. Stat. Ann. § 66-1288; Ky. Rev. Stat. Ann. § 65.113; La. Stat. Ann. § 40:1730.21.1; Miss. Code Ann. § 17-25-34; Mo. Rev. Stat. § 67.309; N.H. Rev. Stat. Ann. § 674:51(VI); Ohio Rev. Code Ann. § 4933.41; Okla. Stat. tit. 11, § 14-107(E); Tenn. Code Ann. § 7-51-2102; Tex. Util. Code Ann. § 181.903; Utah Code Ann. §§ 10-9a-531, 17-27a-527; W. Va. Code § 8-12-23; Wyo. Stat. Ann. §§ 15-1-132, 18-2-116. Legislation also has been introduced—but not enacted—in Colorado, Michigan, Minnesota, Nebraska, North Carolina, Pennsylvania, Virginia, and Wisconsin. *See* Tom DiChristopher, ***Virginia Says No to Anti-Gas Ban Bill, Still Aims to Protect Gas Users***, S&P Glob. Mkt. Intelligence (Aug. 11, 2022).

10 *E.g.*, Tenn. Code Ann. § 7-51-2102.

11 *E.g.*, Ohio Rev. Code Ann. § 4933.41(A)(1) ("Every person seeking to obtain distribution service or retail natural gas service has the right to obtain any available distribution service or retail natural gas service from a natural gas company with capacity to provide service to the person in that location or any available competitive retail natural gas service from any competitive retail natural gas service supplier certified to provide that service to that person in that location").

12 In addition, research by RMI suggests that state ban on bans laws can force consumers to pay more for energy—both upfront (for energy infrastructure) and over time (for energy supply)—by contributing to the continued construction of expensive mixed-fuel buildings, rather than cheaper all-electric ones. *See* Michael Donatti *et al.*, RMI, How Fossils Move to Block Local Climate Action 4–5 (June 2021) (summarizing RMI research finding that all-electric construction can be cheaper both to build and to operate).

The goal of this policy paper is to provide guidance to interested municipalities and their partners about climate- and public health-related policy options that remain viable in the face of these state-level laws restricting local governments' ability to manage natural gas infrastructure. Our analysis takes a case study approach, focusing on the bans on bans that were enacted by Georgia, Missouri, and Texas. In each of these states—which are among the top natural gas consumers in the country[13]—some of the largest cities have expressed interest in reducing their emissions, including from the buildings sector; we thus pay particular attention to policies that have been either adopted or considered by Atlanta, St. Louis, Kansas City, and Houston.[14]

Based on our analysis, it appears that the relative breadth of a given state law preempting local regulation of natural gas infrastructure is the primary determinant of local governments' continued policymaking flexibility. Even in a state, like Texas, where chartered localities constitutionally are empowered to enact ordinances on nearly any subject[15]—and thus possess extensive "home rule" authority—the state government still can legislate in a manner that explicitly or implicitly forecloses local policy initiatives. Overall, however, we find that municipalities likely retain significant authority that enables them to take robust steps to reduce building emissions and improve indoor air quality. In particular, measures aimed at increasing buildings' energy efficiency offer municipalities a way both to achieve these policy goals and to protect residents against current and future energy resource challenges.[16]

In the following section, we examine the legal frameworks that shape the policymaking powers of local governments in Georgia, Missouri, and Texas. In addition to each state's home rule provisions and ban on bans statute, we consider certain aspects of federal law. We then discuss five categories of policies that Georgia, Missouri, and Texas cities might consider as they push to reduce building emissions and to promote safe indoor air quality, notwithstanding their states' bans on bans: building performance standards, enhanced building code standards, zoning and process incentives for building electrification, municipal subsidies to reduce on-site fossil fuel use, and information disclosure and public education measures regarding the health hazards and climate impacts of natural gas use.[17] We conclude with minimum actions that we strongly recommend municipalities take in light

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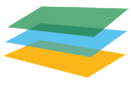
13 Tom DiChristopher & Anna Duquiatan, ***States that Outlaw Gas Bans Account for 31% of US Residential/Commercial Gas Use***, S&P Glob. Mkt. Intelligence (June 9, 2022).

14 Houston, Tex., **Houston Climate Action Plan** (Apr. 2020); St. Louis, Mo. Off. of Sustainability, **Climate Action & Adaptation Plan** (Apr. 2017); Kansas City, Mo., **Kansas City, Mo. Climate Protection & Resiliency Plan** (Sept. 2022); Atlanta, Ga. Off. of Resilience, Decarbonize Atlanta: A Roadmap to Achieve Carbon Neutral Buildings (Apr. 2021); Atlanta, Ga. Off. of Resilience, **Clean Energy Atlanta: A Vision for a 100% Clean Energy Future** (Mar. 2019); Atlanta, Ga. Off. of Sustainability, **Climate Action Plan** (July 2015).

15 *See* Tex. Const. art. XI, § 5(a).

16 *See* Joseph G. Allen *et al.*, Opinion, ***Want to Phase Out Fossil Fuels? We Must Fundamentally Change Our Buildings***, Washington Post (Sept. 26, 2022) (discussing how deployment of energy efficient technologies can reduce the scale of renewable energy sources that need to be developed in order to decarbonize both buildings and the electricity grid, and reporting research finding that "[i]nstead of having to multiply our current solar and wind power by 28 or 303, respectively, . . . such technology would bring the need for solar and wind down to 4.5 or 36 times our current output").

17 This paper does not address whether actual or effective bans on the installation of natural gas infrastructure in new construction, as Berkeley, California and other municipalities are implementing, would be a viable policy option. We do not believe such bans can be implemented in any of the states discussed herein, nor do we believe they would be possible in any other state that has adopted a ban on bans.



of their retained policymaking powers, some of which capitalize on the subsidies now available through the IRA.

II. Legal Constraints on Local Efforts to Reduce Fossil Fuel Consumption

Although towns, cities, and counties often are the primary providers of key government services, their authority over local affairs and public policy is fundamentally limited: they only possess policymaking power consistent with state constitutions and state laws, as well as the federal Constitution and federal laws. With respect to policies aimed at reducing building emissions, the primary limitations on a municipality are how broad (or narrow) its home rule powers are under state law and the terms of the ban on bans statute that applies in the relevant state. Federal law also supplies some limitations, but in this instance preemption by federal law is relatively easier to avoid than preemption by state law. We review each of these types of legal constraint below.

a. State Law Limits

i. "Home Rule" and Requirements for Local Consistency with State Laws

"Home rule" is the ability of a municipality to manage its affairs on its own initiative. In many states—as is the case in Missouri, Georgia, and Texas— some (if not all) municipalities are granted home rule powers pursuant to the applicable state constitution. However, not all states grant the same scope of home rule authority to their localities. Missouri's and Texas's constitutions, for example, endow chartered municipalities with broad authority to initiate local legislation.[18] Georgia's constitution, meanwhile, provides that home rule authority exists at the state legislature's discretion; where home rule has been granted, though, the

18 Mo. Const. art. VI, § 19(a) ("Any city which adopts or has adopted a charter for its own government, shall have all powers which the general assembly of the state of Missouri has authority to confer upon any city, provided such powers are consistent with the constitution of this state and are not limited or denied either by the charter so adopted or by statute. Such a city shall, in addition to its home rule powers, have all powers conferred by law."); Tex. Const. art. XI, § 5(a) (granting cities with more than 5,000 residents the power to adopt charters and providing that "no charter or any ordinance passed under said charter shall contain any provision inconsistent with the Constitution of the State, or of the general laws enacted by the Legislature of this State"). *See also State ex inf. Hannah ex rel. Christ v. City of St. Charles*, 676 S.W.2d 508, 512 (Mo. 1984) ("Section 19(a) clearly grants to a constitutional charter city all power which the legislature is authorized to grant. Under Missouri's new model of home rule, even in the absence of an express delegation by the people of a home rule municipality in their charter, the municipality possesses all powers which are not limited or denied by the constitution, by statute, or by the charter itself."); *Quick v. City of Austin*, 7 S.W.3d 109, 122 (Tex. 1998) ("A home-rule city is not dependent on the Legislature for a grant of authority. Rather, the Legislature may provide limits on the power of home-rule cities, but only if the limitation appears with 'unmistakable clarity.'" (citations omitted)). By contrast, in both Texas and Missouri, *non-chartered* local governments have more limited powers, which are defined by statute. *See Town of Lakewood Vill. v. Bizios*, 493 S.W.3d 527, 531 (Tex. 2016) ("Unlike home-rule municipalities, general-law municipalities, . . . 'are political subdivisions created by the State and, as such, possess [only] those powers and privileges that the State expressly confers upon them.'" (quoting *Tex. Dep't of Transp. v. City of Sunset Valley*, 146 S.W.3d 637, 645 (Tex. 2004))); *Cape Motor Lodge, Inc. v. City of Cape Girardeau*, 706 S.W.2d 208, 212 (Mo. 1986) ("Statutory cities, acting without a constitutional home rule charter, cannot act without specific grants of power." (citing *State ex rel. Mitchell v. City of Sikeston*, 555 S.W.2d 281 (Mo. 1977))).

Georgia constitution also provides that home rule municipalities shall have certain minimum powers over matters such as public safety, zoning, building codes, and air quality control.[19] By statute, the Georgia General Assembly has granted municipalities the general power "to adopt clearly reasonable ordinances, resolutions, or regulations relating to its property, affairs, and local government."[20]

Even when home rule authority, in principle, enables a municipality to legislate on a wide array of issues that matter to local residents, a local government's true power depends on whether the state has either expressly or implicitly imposed limits on policymaking in a given field. Both the Missouri and Texas constitutions provide that chartered cities must exercise their powers in a manner consistent with other constitutional provisions and state law.[21] Georgia's constitution goes further, not only requiring that local legislation not conflict with laws passed by the state's General Assembly or the state constitution, but also forbidding municipalities from enacting "local or special law . . . in any case for which provision has been made by an existing general law," except to the extent that the General Assembly may authorize municipalities to continue to exercise their powers in a manner that does not conflict with statewide law.[22]

Determining whether a local law violates these state restrictions on local policymaking can be complicated, and it often has led to litigation before state courts. When confronted with these issues, courts generally consider one of three forms of preemption: express preemption, where a municipality is specifically forbidden by state law from enacting an ordinance concerning a particular matter; field preemption, where state law is found so comprehensive that it impliedly excludes further regulation by a municipality regarding the same issue; and conflict preemption, where a municipal law cannot be reconciled with a statewide one, and the state's provision is required to prevail.[23] While municipalities and their partners should be aware of all three forms of preemption when formulating local policies aimed at reducing building emissions,[24]

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19 Ga. Const. art. IX, § 2, ¶¶ II–IV.

20 Ga. Code Ann. § 36-35-3(a).

21 Mo. Const. art. VI, § 19(a); Tex. Const. art. XI, § 5(a).

22 Ga. Const. art. III, § 6, ¶ IV. *See also* Ga. Code Ann. § 36-35-3(a) (requiring that the power to adopt reasonable ordinances relating to local government be restricted to those matters "for which no provision has been made by general law and which are not inconsistent with the Constitution or any charter provision applicable thereto").

23 *See, e.g., City of Laredo v. Laredo Merchs. Ass'n*, 550 S.W.3d 586, 594–98 (Tex. 2018) (holding that city's ban on single-use plastic and paper bags was preempted by state's Solid Waste Disposal Act, which explicitly forbid municipalities from enacting ordinances concerning the management of solid waste that would "prohibit or restrict, [1] for solid waste management purposes, [2] the sale or use of a container or package [3] in a manner not authorized by state law"); *Gebrekidan v. City of Clarkston*, 784 S.E.2d 373 (Ga. 2016) (holding that state laws regulating "coin operated amusement machines," although they did not contain express statutory language preempting local ordinances on the same subject, nevertheless were so comprehensive as to preclude city's ordinance prohibiting certain alcohol retailers from offering any form of electronic or mechanical gaming machines on their premises, at least insofar as the ordinance applied to "coin operated amusement machines" as defined by state law); *St. Charles Cnty. Ambulance Dist. v. Town of Dardenne Prairie*, 39 S.W.3d 67, 70 (Mo. Ct. App. 2001) (finding that town's conditional use permit for ambulance base, which prohibited ambulance drivers from using sirens at certain times and in certain locations, conflicted with state law permitting ambulance drivers to use sirens in order to break traffic laws when responding to emergencies, and therefore holding that the permit restrictions were preempted).

24 Indeed, not all state courts will treat the three forms of preemption as requiring distinct inquiries. For example, in Texas, the state's Supreme Court has observed that

[i]n *Lower Colorado River Authority v. City of*

the state bans on bans at issue in this paper predominantly implicate express preemption concerns, since each is a specific directive by a state legislature setting forth types of actions that municipalities may not take.

ii. The Bans on Bans: Express Preemption of Local Laws

In 2021, Missouri, Georgia, and Texas all passed "bans on bans,"[25] joining the wave of states barring their municipalities from implementing laws that would prohibit buildings from connecting to natural gas infrastructure, among other measures. Although a number of municipalities in each of the three states had undertaken or had planned various policies to address local greenhouse gas emissions either directly or indirectly, none of these municipalities had passed a local gas ban prior to the laws' enactments. As with ban on bans statutes generally, Missouri's, Georgia's, and Texas's laws are not uniform in the types of municipal legislation they cover; all, however, function as overt withdrawals of some portion of local governments' authority to manage local natural gas infrastructure.

Missouri's law appears to be the narrowest of the three states' bans on bans. The statute provides that "[n]o political subdivision of this state . . . shall adopt an ordinance, resolution, regulation, code, or policy that *prohibits, or has the effect of prohibiting*, the connection or reconnection of a utility service based upon the type or source of energy to be delivered to an individual customer."[26] While the statute defines "utility service" as including "natural gas, propane gas, electricity, and any other form of energy provided to an end user customer,"[27] "connection" and "reconnection" do not have clearly assigned meanings. Based on other provisions of Missouri law, however, it appears that the terms relate to the physical flow of fuel or energy between a utility service provider and a customer.[28] Left unaddressed by the ban on bans statute are local laws that fall short of actual or effective prohibitions on linkages with natural gas infrastructure. Given Missouri courts' typical approach to preemption questions,[29] it seems these types of policies in

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> *San Marcos*, we stated that '[a] limitation on the power of home rule cities by general law . . . may be either an express limitation or one arising by implication,' *but we have never delineated the distinction between the two*. . . . Instead, we focus on whether the Legislature's intent to provide a limitation appears with 'unmistakable clarity.' . . . Because the critical inquiry in determining whether an ordinance is preempted is whether the Legislature expressed its preemptive intent through clear and unmistakable language, we begin with statutory construction analysis.

BCCA Appeal Grp., Inc. v. City of Houston, 496 S.W.3d 1, 7–8 (Tex. 2016) (citations and footnote omitted) (emphasis added).

25 2021 Ga. Laws Act 254 (H.B. 150); 2021 Mo. Legis. Serv. H.B. 734, § A; 2021 Tex. Sess. Law Serv. Ch. 44 (H.B. 17).

26 Mo. Rev. Stat. § 67.309(1) (emphasis added).

27 Mo. Rev. Stat. § 67.309(2).

28 *Cf.* Mo. Rev. Stat. §§ 250.236, 393.108, 660.122.

29 *See, e.g.*, *McCollum v. Dir. of Revenue*, 906 S.W.2d 368, 369 (Mo. 1995) ("Ordinances are presumed to be valid and lawful. If, however, a municipal ordinance conflicts with a general law of the state, it is void. The ordinance should be construed to uphold its validity unless the ordinance is expressly inconsistent or in irreconcilable conflict with the general law of the state. The words contained in the statute or ordinance should be given their plain and ordinary meaning and should be interpreted to avoid absurd results. Moreover, it is not necessary that the ordinance follow the exact language of a statute on the same subject to avoid invalidity." (citations and footnote omitted)); *Miller v. City of Town & Country*, 62 S.W.3d 431, 438 (Mo. Ct. App. 2001) ("The issue of preemption may fairly be divided into two questions: Has the Missouri legislature expressly preempted the area? And is the city's regulation in conflict with state law? We look to a statute's plain and ordinary meaning to determine if a specific subject of regulation is expressly

many cases should remain possible: the limited scope of the ban on bans statute suggests that many policies aimed at reducing buildings' on-site fossil fuel use or at improving indoor air quality are unlikely to be preempted *because of* the state's ban on natural gas bans. Unless their authority has been cabined by *other* laws, Missouri municipalities now only appear to be prevented from enacting natural gas bans similar to Berkeley, California's, or measures so onerous that connections to natural gas distribution systems become impossible.[30]

Georgia's law is similar to Missouri's, in that it forbids any "governmental entity"[31] in the state from adopting "any policy that *prohibits, or has the effect of prohibiting*, based on the type or source of energy or fuel to be delivered . . . [t]he connection or reconnection of a customer to an electric utility, gas company, or natural, manufactured, or liquefied petroleum gas service."[32] As with the Missouri statute, Georgia's statute does not define "connection" or "reconnection," but other provisions of Georgia law support the construction of these terms as relating to the physical flow of fuel or energy between a utility service provider and a customer.[33] Georgia's statute additionally provides that no governmental entity may enact a policy prohibiting (or having the effect of prohibiting) "[s]ales of liquefied petroleum gas, including . . . directly to a consumer by a retail establishment," or "[s]ales of other liquefied petroleum products."[34] While these provisions make Georgia's ban on bans statute slightly broader than Missouri's, the law still appears to be fairly limited in its total scope. The similarly narrow cast of Georgia's ban on bans law, compared with Missouri's, suggests that Georgia municipalities also should face no greater hurdles to developing and implementing most gas combustion-related policies than they did before the law's passage. While Georgia courts typically treat general legislation passed by the state legislature as expressly or impliedly excluding local regulations concerning the same subject matter,[35] their analysis of

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preempted. An ordinance that merely enlarges on the provision of a statute by requiring more than the statute requires creates no conflict between the two. However, when the express or implied provisions of the local regulation and the state statute are inconsistent and irreconcilable, the local regulation is deemed void." (citations omitted)).

30 *Cf., Page W., Inc. v. Cmty. Fire Prot. Dist. of St. Louis Cnty.*, 636 S.W.2d 65, 65 (Mo. 1982) (holding while that fire district ordinance prohibiting self-service sales of gasoline at filling stations was not expressly preempted by state statute, ordinance was preempted because it conflicted with state regulations permitting the dispensing of gasoline on a self-service basis).

31 "Governmental entity" means a "[m]unicipality, public corporation, political subdivision, instrumentality, body politic, authority, district, consolidated government, county, or any board, commission, agency, department, or board of any such entity," or "[s]tate board, commission, agency, department, or board," or "other form of government." Ga. Code Ann. § 46-1-6(a).

32 Ga. Code Ann. § 46-1-6(b)(1) (emphasis added). "Policy" means "an ordinance, resolution, regulation, code, or any other requirement imposed by a governmental entity." Ga. Code Ann. § 46-1-6(a).

33 *Cf.* Ga. Code Ann. § 46-4-158.3(1)(E)–(F).

34 Ga. Code Ann. § 46-1-6(b)(2)–(3).

35 *Franklin Cnty. v. Fieldale Farms Corp.*, 507 S.E.2d 460, 462–63 (Ga. 1998) (explaining that state constitution's uniformity clause's "first provision follows the preemption rule of previous constitutions by precluding local or special laws when general laws exist on the same subject. Under this provision, preemption may be express or implied"); *see also Gebrekidan*, 784 S.E.2d at 376 ("Under the first part of the Uniformity Clause, . . . the General Assembly may preempt local ordinances on the same subject as a general law either expressly or by implication. In express preemption, the statutory text speaks to the need for statewide uniformity on the subject in question or to the lack of local authority to regulate the subject of the general law. In implied preemption, the intent of the General Assembly to preempt local regulation on the same subject as the general law is inferred from the comprehensive nature of the statutory scheme." (citation and footnotes omitted)). *See, e.g., City of Buford v. Georgia Power Co.*, 581 S.E.2d

a statute's effective scope usually is sensitive to the specific language used or regulatory scheme created by the General Assembly.[36] Here, where the General Assembly only has withdrawn municipalities' power to regulate fuel gas supply in *particular* ways—*i.e.*, actual or effective prohibitions on the physical flow of fuel into structures from natural gas distribution networks—it appears that the General Assembly has left other regulatory paths related to fuel gas usage open, to the extent that municipalities enjoyed such powers in the first place.[37]

Texas's statute is more complex than either Georgia's or Missouri's, providing that:

> No . . . political subdivision of this state may adopt or enforce an ordinance, resolution, regulation, code, order, policy, or other measure that has the *purpose, intent, or effect of directly or indirectly banning, limiting, restricting, discriminating against, or prohibiting* the connection or reconnection of a utility service or the construction, maintenance, or installation of residential, commercial, or other public or private infrastructure for a utility service based on the type or source of energy to be delivered to the end-use customer.[38]

The law further provides that:

> An entity, including a . . . political subdivision, or utility, *may not impose any additional charge or pricing difference* on a development or building permit applicant for utility infrastructure that: (1) encourages those constructing homes, buildings, or other structural improvements to connect to a utility service based on the type or source of energy to be delivered to the end-use customer; or (2) discourages the installation of facilities for the delivery of or use of a utility service based on the type

16 (Ga. 2003) (holding that "[b]ecause of the breadth and scope of the legislature's delegation of authority to the [Public Service Commission], . . . the regulation of electric power substations by municipalities is preempted"); *Hortman v. Guy*, 529 S.E.2d 182, 182 (Ga. App. 2000) (holding that state statute defining livestock ownership expressly preempted county animal control ordinance that defined "owner" more broadly than state statute, where statute declared "a necessity for a uniform state-wide livestock law embracing all public roads in the state and all other property").

36 *See, e.g., Franklin Cnty.*, 507 S.E.2d at 464 (explaining that statutory scheme concerning application of sludge to land that explicitly provided local governments only with power to "assess reasonable monitoring fees" thus impliedly "preclude[d] counties from exercising broader powers," and that "by assigning the task of developing permit requirements directly to the state, the statute implies that the General Assembly did not intend to give counties concurrent jurisdiction to regulate through a permit system"); *Old S. Duck Tours v. Mayor & Aldermen of City of Savannah*, 535 S.E.2d 751 (Ga. 2000) (holding that city ordinance forbidding use of amphibious vehicles for tours of city historic district was *not* preempted by operating license granted by state agency to amphibious vehicle tour operator, because state law authorized city "to enact local laws in order to regulate and control the use of public roads on the [city's] street system . . . and to prohibit or regulate the use of heavily traveled streets by any class or kind of traffic found to be incompatible with the normal and safe movement of traffic").

37 *Cf. GeorgiaCarry.Org, Inc. v. Coweta Cnty.*, 655 S.E.2d 346 (Ga. App. 2007) (holding that county ordinance prohibiting firearms from county recreation and sports facilities was expressly preempted by state statute where "the plain language of the statute expressly precludes a county from regulating 'in *any* manner [the] . . . carrying . . . of firearms'" (emphasis added)); *Gebrekidan*, 784 S.E.2d at 374, 379–81 (leaving open possibility of municipal regulation of entertainment machines that do not fall within the scope of state statute's definition of "coin operated amusement machines," while holding ordinance preempted because it conflicted with state statutory scheme regulating "coin operated amusement machines").

38 Tex. Util. Code Ann. § 181.903(b) (emphasis added).

> or source of energy to be delivered to the end-use customer.[39]

Facially, the first paragraph above reaches beyond actual or effective prohibitions on physical connections to gas utility infrastructure. Under the statute, even measures "intended" to "restrict" or "discriminate against" connections with gas utility infrastructure, or having the "effect" thereof, cannot be implemented. The statute notably does not define what constitutes "discrimination against" gas utility service, nor is it clear how "banning" and "prohibiting" (or "restricting" and limiting") are distinct from one another. In addition, the second paragraph specifically forbids the use of "additional charges" and "pricing differences" related to development or building permit applications that would disincentivize applicants' connections to natural gas services. As with key terms in the first paragraph, "additional charges" and "pricing differences" are not defined in the statute.

In Texas, a court's determination that a local ordinance is preempted depends "on whether the Legislature's intent to provide a limitation appears with 'unmistakable clarity.'"[40] To determine legislative intent, Texas courts focus primarily on the exact words of a statute, often the assistance of ordinary dictionaries where terms have been left undefined.[41] Where otherwise undefined terms are susceptible of broad readings, Texas courts have in the past construed those terms in like fashion.[42] Thus, the expansive language of Texas's ban on bans statute, with its many undefined terms, appears to expose more policy initiatives to litigation risk—and potential preemption—than Missouri's and Georgia's laws. Under Texas's statute, even if an ordinance is not "intended" to "prohibit" natural gas connections, it might still fall because it has the "effect" of "discriminating against" natural gas infrastructure. Although the legislative history of the Texas ban on bans suggests that the intended scope of the law may not be quite as far-reaching as the statutory text might be read to be,[43] municipalities may wish to exercise heightened caution when considering certain policy proposals.

b. Federal Law Limits

Even if a policy measure lies within a municipality's home rule authority, and does not fall within the scope of an applicable ban on bans, local lawmakers and advocates must be mindful of the risk of preemption by *federal* law, which is superior to any state or local enactment.[44] However, with respect to policies

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39 Tex. Util. Code Ann. § 181.903(c) (emphasis added).

40 *BCCA Appeal Grp., Inc.*, 496 S.W.3d at 7.

41 *City of Houston v. Bates*, 406 S.W.3d 539, 543–44 (Tex. 2013) ("Our primary objective when interpreting a statute is to give effect to the Legislature's intent. We begin with the statute's text and the presumption that the Legislature intended what it enacted. Legislative intent is best expressed by the plain meaning of the text unless the plain meaning leads to absurd results or a different meaning is supplied by legislative definition or is apparent from the context. When the text of the statute is clear and unambiguous, we apply the statute's words according to their plain and common meaning unless a contrary intention is apparent from the statute's context." (citations omitted)).

42 *See, e.g., Tex. Ass'n of Bus. v. City of Austin*, 565 S.W.3d 425, 438–41 (Tex. App. 2018) (holding city paid sick leave ordinance preempted by Texas minimum wage statute); *Washington v. Assoc'd Builders & Contractors of S. Tex., Inc.*, 621 S.W.3d 305, 314–18 (Tex. App. 2021) (same).

43 *See* ***Hearing on H.B. 17 Before the Tex. H. Comm. on State Affairs***, 87th Leg., Reg. Sess. (Mar. 18, 2021) (statement of Rep. Deshotel at 5:43:06–48:25); Tex. H. Research Org., **Bill Analysis: H.B. 17 (2nd Reading)**, 87th Leg., Reg. Sess. (Mar. 30, 2021); Tex. S. Research Ctr., **Bill Analysis: H.B. 17 (Engrossed)**, 87th Leg., Reg. Sess. (Apr. 15, 2021); Tex. H. Journal, 87th Leg., Reg. Sess. 787–88, 799–800 (2021).

44 U.S. Const. art. VI, cl. 2.

aimed at reducing emissions from residential and commercial buildings, the relevant provisions of federal law are relatively discrete.

One of the chief restrictions on local authority in this area stems from the Energy Policy and Conservation Act ("EPCA").[45] EPCA sets nationwide energy efficiency standards for a number of consumer appliances, as well as certain industrial machinery.[46] To prevent the fragmentation of the national market for these devices, EPCA contains provisions that prevent states and their localities from enacting regulations "concerning the energy efficiency, energy use, or water use of [a] covered product," unless a statutory exception applies.[47] States and localities thus generally are forbidden from requiring that appliances covered by EPCA achieve energy consumption savings greater than federal standards in order to be sold or used within their boundaries. EPCA furthermore limits states and municipalities from *indirectly* mandating higher energy efficiency performance by covered products. In particular, the act forbids states and localities from enacting "regulation[s] or other requirement[s] contained in a State or local building code for new construction concerning the energy efficiency or energy use" of covered products, unless the building regulations promoting energy efficiency meet certain statutory criteria.[48]

Case law interpreting EPCA's preemption of state and local building code provisions is extremely limited. However, from the few cases that have been litigated, certain parameters seem clear:

- Building code provisions that prescribe particular pathways for increased energy efficiency in new construction, which require the use of appliances having energy performance greater than federal standards, likely are not permissible because such provisions effectively set higher energy efficiency standards for covered appliances by compelling the use of more efficient appliances.[49]

- Building code provisions that set forth performance-based pathways for increased energy efficiency in new construction, where builders are economically incentivized but *not* legally compelled to choose appliances more efficient than federal standards *may be* permissible, provided that the building code meets all statutory requirements for EPCA's building code preemption exception to apply.[50]

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45 Pub. L. No. 94-163, 89 Stat. 871 (1975) (codified in relevant part, and as amended, at 42 U.S.C. § 6291 *et seq.*).

46 42 U.S.C. §§ 6295, 6313. Covered appliances include many commonly found in households and commercial spaces, such as refrigerators, furnaces, air conditioners, heat pumps, water heaters, clothes washers and dryers, and residential stoves and ovens. *Id.*

47 42 U.S.C. § 6297(c); *see also* 42 U.S.C. § 6316(a)–(b).

48 42 U.S.C. §§ 6297(f)(3), 6316(a) (incorporating § 6297(f)(3) by reference, except with respect to certain HVAC and water heating appliances); *see also* 42. U.S.C. § 6316(b)(2) (state efficiency standards for certain HVAC and water heating equipment preempted unless standards are contained in a state or local building code for new construction and both are consistent with "minimum energy efficiency requirement in amended ASHRAE/IES Standard 90.1" and "do[] not take effect prior to the effective date of the applicable minimum energy efficiency requirement in amended ASHRAE/IES Standard 90.1").

49 *See Air Conditioning, Heating & Refrigeration Inst. v. City of Albuquerque*, No. 08-cv-633 (MV/RLP), 2008 WL 5586316 (D.N.M. Oct. 3, 2008); *Air Conditioning, Heating & Refrigeration Inst. v. City of Albuquerque*, 835 F.Supp.2d 1133 (D.N.M. 2010).

50 *Compare Bldg. Indus. Ass'n of Wash. v. Wash. State Bldg. Code Council*, 683 F.3d 1144, 1145, 1151–52 (9th Cir. 2012) (explaining that "cost considerations outside the Building Code itself"—namely, fact that higher efficiency appliances were the cheapest method for builders to achieve code-required energy savings—did not mean that the code compelled builders' selection of those code options,

A key point of uncertainty regarding the scope of preemption under EPCA is the meaning of the phrase "concerning the energy efficiency, energy use, or water use of [a] covered product" within the statute. One federal district court, in construing the phrase, believed that "concerning" simply meant "relating to," and thus concluded that EPCA's preemption provision was meant to apply broadly to regulations touching on appliance energy usage and efficiency.[51] More recently, however, the federal district court reviewing Berkeley, California's gas ban concluded that, even though EPCA's preemption bar may be intended to be broad, a local regulation must "*directly* regulate either the energy use or energy efficiency of covered appliances" in order to be preempted.[52] Arguably, a narrower reading of EPCA's preemption provision is a better one: for example, building code measures to promote energy efficiency that incentivize better choices among already available products do not detract from EPCA's goal of simplifying manufacturers' processes and lowering costs for consumers.[53]

With respect to manufactured housing (*i.e.*, mobile homes), state and municipal authority is constrained by the National Manufactured Housing Construction and Safety Standards Act of 1974 (MHCSSA).[54] MHCSSA sets construction and safety standards for manufactured housing units assembled after 1976. Similar to EPCA's energy efficiency standards, these construction and safety standards are binding nationwide and preempt any state or local regulations concerning manufactured home production specifications.[55] States and localities may still regulate certain aspects of manufactured home installation,[56] though, as well as

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unlike a code imposing a penalty on builders for not using high efficiency products), *with Air Conditioning, Heating & Refrigeration Inst.*, 2008 WL 5586316, at *8–*9 (explaining that code provisions requiring that builders offset installations of covered products that did not exceed federal efficiency standards by implementing other energy efficiency measures constituted effective penalty on using appliances that complied with federal standards, suggesting code was preempted).

51 *Air Conditioning, Heating & Refrigeration Inst.*, 2008 WL 5586316, at *6–*7 (quoting Black's Law Dictionary 289 (6th ed. 1990)). Notably, the district court in this case did not address in its analysis the fact that "energy use" and "energy efficiency" are defined terms in the statute, with specialized meanings that are different from colloquial usages of the terms "energy use" and "energy efficiency." *See* 42 U.S.C. § 6291(4)–(5) (stating that "'energy use' means the quantity of energy directly consumed by a consumer product at point of use, *determined in accordance with test procedures under section 6293 of this title*" and that "'energy efficiency' means the ratio of the useful output of services from a consumer product to the energy use of such product, *determined in accordance with test procedures under section 6293 of this title*." (emphasis added)).

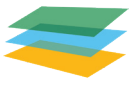
52 *Cal. Rest. Ass'n v. City of Berkeley*, 547 F. Supp. 3d 878, 891 (N.D. Cal. 2021) (emphasis added). In this case, unlike in *Air Conditioning, Heating & Refrigeration Institute*, the district court specifically *did* consider EPCA's particular definitions of "energy use" and "energy efficiency" in analyzing the scope of EPCA's preemption bar. *See id.* at 884, 890–91.

53 *See* Katrina Wyman & Danielle Spiegel-Feld, *The Urban Environmental Renaissance*, 108 Calif. L. Rev. 305, 351–57 (2020).

54 Pub. L. No. 93-383, tit. VI, 88 Stat. 633, 700 (1974) (codified as amended at 42 U.S.C. § 5401 *et seq.*).

55 42 U.S.C. § 5403(d) ("Whenever a Federal manufactured home construction and safety standard established under this chapter is in effect, no State or political subdivision of a State shall have any authority either to establish, or to continue in effect, with respect to any manufactured home covered, any standard regarding the construction or safety applicable to the same aspect of performance of such manufactured home which is not identical to the Federal manufactured home construction and safety standard. Federal preemption under this subsection shall be broadly and liberally construed . . . .").

56 *Id.* ("Subject to [42 U.S.C. § 5404], there is reserved to each State the right to establish standards for the stabilizing and support systems of manufactured homes sited within that State, and for the foundations on which manufactured homes sited within that State are installed, . . . except that such



where such structures may be erected and their aesthetics.[57]

Finally, municipalities should be cognizant of the Dormant Commerce Clause, to the extent that they may seek to increase the use of certain appliances and building materials—or decrease other appliances and building materials' use—in order to reduce on-site fossil fuel consumption. Under the federal Constitution, the Commerce Clause grants Congress the power to regulate interstate economic activity.[58] Courts have explained that the Commerce Clause implies that states and their localities cannot enact certain measures that affect the flow of goods and services between states.[59] For instance, a state usually is forbidden from giving preferential market access to producers of a good within its borders, or from burdening the importation of a good from another state, since these measures discriminate against out-of-state producers and unfairly advantage in-state ones.[60] Non-discriminatory measures that have indirect effects on interstate commerce also may be preempted, if the burdens they impose on the flow of interstate trade substantially outweigh their local bene-

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standards shall be consistent with the purposes of this chapter and shall be consistent with the design of the manufacturer.").

57 *See, e.g., Ga. Manufactured Hous. Ass'n, Inc. v. Spalding Cnty.*, 148 F.3d 1304, 1310–11 (11th Cir. 1998) (holding county's 4:12 roof pitch requirement for mobile homes was not preempted by MHCSSA because the requirement was "not a construction or safety standard within the meaning of the Act," but instead was "an aesthetic condition for placement of manufactured homes in residential districts," and did not "impede the HUD standards because it [did] not alter or excuse the requirements for HUD certification," and concluding that "the preemptive scope of the Act is not so broad as to limit the County's authority to regulate aesthetics through its Zoning Ordinance").

58 U.S. Const. art. I § 8, cl. 3 ("The Congress shall have Power . . . [t]o regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes.").

59 *See, e.g., United Haulers Ass'n, Inc. v. Oneida-Herkimer Solid Waste Mgmt. Auth.*, 550 U.S. 330, 338 (2007) ("Although the Constitution does not in terms limit the power of States to regulate commerce, we have long interpreted the Commerce Clause as an implicit restraint on state authority, even in the absence of a conflicting federal statute."). In the current term, the U.S. Supreme Court will hear a case captioned *National Pork Producers Council v. Ross*, No. 21-486, in which industry interests are challenging a California law regulating how pork sold within the state is produced, even when the animals supplying the meat are raised outside the state. Experts have cautioned that the Court's decision in this matter may affect the scope of states' authority to enact measures regulating public health and environmental conditions. *See* Kelsey Rinehart Eberly, Harv. L. Sch. Animal L. & Pol'y Program, **Potential Reverberations of Pork Producers' Commerce Clause Challenge Before the Supreme Court** (Aug. 2022).

60 *See, e.g., Wyoming v. Oklahoma*, 502 U.S. 437, 455–59 (1992) (holding that Oklahoma statute, which required coal-fired power plants located in Oklahoma and selling electricity to the Oklahoma market burn a coal mixture containing at least 10% Oklahoma-mined coal, violated Dormant Commerce Clause because the law "expressly reserve[d] a segment of the Oklahoma coal market for Oklahoma-mined coal, to the exclusion of coal mined in other States," and this discrimination against out-of-state coal was not "demonstrably justified by a valid factor unrelated to economic protectionism"); *Or. Waste Sys., Inc. v. Dep't of Env't Quality of State of Or.*, 511 U.S. 93, 99, (1994) (holding that Oregon law imposing a $2.25 per ton surcharge on in-state disposal of waste originally generated out-of-state, while imposing only a $0.85 per ton charge on in-state disposal of solid in-state waste, was facially discriminatory, and state did not offer "legitimate local purpose" that could not be achieved but for the discriminatory charge). *But see, e.g., Maine v. Taylor*, 477 U.S. 131, 140–52 (1986) (holding that Maine statute prohibiting importation of live bait fish did not violate Dormant Commerce Clause, because state had legitimate and substantial interest in preventing the introduction of baitfish parasites to the state's wild fish, as well as the introduction of non-native species, and less discriminatory means of protecting against these threats were unavailable).

fits.[61] However, courts in most cases concerning regulations that forbid the sale or use of particular products in a locality, where in- and out-of-state producers face equivalent limitations, have found such policies valid under the Dormant Commerce Clause.[62]

III. Policy Options to Promote Reduced Fossil Fuel Use in Buildings

Notwithstanding Georgia's, Missouri's, and Texas's bans on bans, we believe that municipalities retain important authority to reduce buildings' reliance on on-site combustion. Texas's law, though broadly phrased, does not appear to ban *all* measures that would reduce buildings' use of natural gas.[63] Missouri's and Georgia's laws, meanwhile, are considerably narrower in scope, removing only certain types of emissions-reducing measures from municipalities' policy toolkits.

Although the exact scope of localities' policymaking power varies among the states, we note that *none* of the three states' laws limits municipalities' ability to choose to decarbonize their own operations: each statute explicitly reserves to municipalities the ability to choose the sources of power upon which their buildings will draw.[64] Municipalities thus retain the ability to lead by example by driving down combustion emissions from their own buildings. We believe municipalities should seize every opportunity to take such steps. Decarbonizing municipal buildings both is necessary as part of meaningful local decarbonization packages, and also helps municipalities create positive local precedents for eliminating fossil fuel use, which can be important in gaining support from local stakeholders.

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61 *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 142 (1970) ("Where the statute regulates even-handedly to effectuate a legitimate local public interest, and its effects on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefits. If a legitimate local purpose is found, then the question becomes one of degree. And the extent of the burden that will be tolerated will of course depend on the nature of the local interest involved, and on whether it could be promoted as well with a lesser impact on interstate activities." (citation omitted)).

62 *E.g., Ass'n des Eleveurs de Canards et d'Oies du Quebec v. Harris*, 729 F.3d 937 (9th Cir. 2013); *Empacadora de Carnes de Fresnillo, S.A. de C.V. v. Curry*, 476 F.3d 326 (5th Cir. 2007); *Nat'l Paint & Coatings Ass'n v. City of Chicago*, 45 F.3d 1124 (7th Cir. 1995); *Int'l Fur Trade Fed'n v. City & Cnty. of San Francisco*, 472 F. Supp. 3d 696 (N.D. Cal. 2020); *Ill. Rest. Ass'n v. City of Chicago*, 492 F. Supp. 2d 891 (N.D. Ill. 2007), *vacated as moot*, No. 06 C 7014, 2008 WL 8915042 (N.D. Ill. Aug. 7, 2008).

63 *Cf. Laredo Merchs. Ass'n* 550 S.W.3d at 593 ("The mere 'entry of the state into a field of legislation . . . does not automatically preempt that field from city regulation.' Rather, 'local regulation, ancillary to and in harmony with the general scope and purpose of the state enactment, is acceptable.' Absent an express limitation, if the general law and local regulation can coexist peacefully without stepping on each other's toes, both will be given effect or the latter will be invalid only to the extent of any inconsistency." (footnotes omitted)).

64 Mo. Rev. Stat. § 67.309 ("Nothing in this section shall limit the ability of a political subdivision to choose utility services for properties owned by such political subdivision or limit a political subdivision's ability to ensure public safety."); Ga. Code Ann. § 46-1-6(c) ("Nothing in this Code section shall limit the ability of a governmental entity to choose utility services for properties owned by such governmental entity."); Tex. Util. Code Ann. § 181.903(d) ("This section does not limit the ability of a regulatory authority or political subdivision to choose utility services for properties owned by the regulatory authority or political subdivision.").

Beyond reducing or eliminating on-site combustion of fossil fuels in their own buildings, municipalities may employ other policy tools to address local building emissions. We discuss five categories of policies below. These categories, and the specific policies we examine, are not intended to be an exhaustive catalog of possible local legislation and regulation. Rather, our aim is to offer a suite of achievable options, and to spur further thinking and discussion regarding local opportunities and needs.

a. Developing & Implementing Building Performance Standards

Building performance standards are an emerging family of policies aimed at reducing greenhouse gas emissions and/or promoting energy efficiency in existing buildings, usually over a certain size threshold. BPSs, at a minimum, set energy usage or greenhouse gas emissions performance targets for covered buildings, and timelines by which buildings are to reach those targets. Rather than prescribing particular changes that building owners or operators must implement, BPSs leave the means of achieving greenhouse gas or energy savings to the owners' and operators' discretion; this flexibility helps ensure that properties' unique circumstances can be taken into account when planning performance improvements. BPSs also often contain alternative compliance pathways for buildings that may face particular difficulties in meeting the relevant targets, and penalties for non-compliance to ensure that emissions reductions or energy savings goals are fulfilled.

Washington, D.C., was the first jurisdiction to enact a BPS policy in January 2019, with eight other cities and one county rapidly following suit.[65] BPS policies now are under consideration in nearly two dozen other jurisdictions, and the Biden Administration has launched the National Building Performance Standards Coalition to support BPS development and implementation.[66] Among the BPS policies that have been developed to date, there are some notable variations. The chief difference among BPSs concerns which aspect of building performance is regulated. In New York City and Boston, standards are tied to buildings' greenhouse gas footprints, including emissions attributable to the electricity consumed in covered buildings;[67] meanwhile, in other cities, standards are based on buildings' energy efficiency.[68] Energy efficiency-focused BPS policies themselves vary in terms of how satisfactory performance is indexed: for

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65 Boston, Mass., Ordinance Amending City of Boston Code, Ordinances ch. VII, §§ 7-2.1 and 7-2.2, Building Energy Reporting and Disclosure (BERDO) (Oct. 5, 2021); Chula Vista, Cal., Ordinance No. 3498 (Mar. 2, 2021); Denver, Colo., Council Bill 21-1310 (Nov. 24, 2021); Montgomery Cnty., Md., Bill No. 16-21 (May 2, 2022); 2019 N.Y.C. Local Law No. 97, N.Y.C. Charter § 651, N.Y.C. Admin. Code §§ 24-802(e), 24-803(a)-(b), 28-320, 28-321; Reno, Nev. Code ch. 14.30; San Jose, Cal., Ordinance No. 30550 (Apr. 13, 2021); St. Louis, Mo., Building Energy Performance Standards (BEPS), Ordinance No. 71132 (Apr. 20, 2020); Washington, D.C., Clean Energy DC Omnibus Amendment Act of 2018, D.C. Law 22-257, 66 D.C. Reg. 1344 (Jan. 18, 2019). In addition to these city- and county-level BPS policies, Colorado, Maryland, and Washington State are creating state-wide BPS programs. Md. Code Ann., Envir. § 2-1602; Wash. State Dep't of Commerce, ***Clean Buildings Performance Standard*** (last visited Sept. 27, 2022); Colo. Energy Off., ***Building Benchmarking*** (last visited Sept. 27, 2022). New York State is considering following suit. *See* N.Y. State Climate Action Council, **Draft Scoping Plan** 127–28 (Dec. 2021).

66 **National BPS Coalition** (last visited Sept. 27, 2022).

67 Boston, Mass. Mun. Code § 7-2.2(i); N.Y.C. Dep't of Buildings, ***Greenhouse Gas Emission Reporting*** (last visited Sept. 27, 2022).

68 *E.g.,* Chula Vista, Cal. Mun. Code § 15.26.050(F)(3).

example, Washington, D.C. determines performance targets for building types by reference to ENERGY STAR scores or *source* energy use intensity metrics,[69] while St. Louis, Missouri and Denver, Colorado set targets based on *site* energy use intensity.[70]

Critically, even when based on energy efficiency targets, BPSs still can drive the reductions in greenhouse gas emissions that are needed to achieve climate goals. Depending on the baseline metric a municipality selects, a BPS policy over time can tend to favor electricity over gas as a source of power in a building.[71] Furthermore, energy efficiency-focused BPS policies may be preferable to BPS policies based on greenhouse gas emissions because they can help reduce demand for energy overall; this not only can help building users achieve important energy cost savings, but also can decrease strain on electricity grids and reduce the scale of zero-carbon energy sources that need to be developed in order to support the full electrification of buildings.[72] Whether targets are based on greenhouse gas emissions or energy efficiency, BPS policies can avoid EPCA's preemption bar. No existing BPS policy mandates the use of appliances that exceed federal standards for energy usage or performance. A building can meet targets through many means other than using super-efficient appliances, such as by investing in weatherization improvements or by optimizing the use of existing building systems, all at the building owner or operator's discretion. This flexibility accordingly makes these BPSs far more like building regulations that have been upheld in EPCA litigation than those that have been struck down.[73]

Moreover, Georgia, Missouri, and Texas localities should not see their respective states' bans on bans as impediments to developing and deploying BPSs, especially if based on energy efficiency. Several Georgia and Missouri municipalities already have been involved in BPS development and implementation: St. Louis, Missouri was the fourth city nationwide to enact a BPS ordinance, in May 2020, while Kansas City, Missouri, and Atlanta and Savannah, Georgia all have joined the National BPS Coalition. These cities should continue to invest in their BPS efforts: because BPSs do not require particular techniques for buildings to come into compliance with performance

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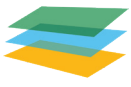
69 D.C. Mun. Regs. tit. 20, § 3530 (2021).

70 St. Louis, Mo., Ordinance No. 71132 § 4; Denver, Colo. Off. of Climate Action, Sustainability & Resiliency, ***Performance Requirements – Buildings 25,000 sq. ft. and Larger*** (last visited Sept. 27, 2022).

71 U.S. Envtl. Prot. Agency, Understanding and Choosing Metrics for Building Performance Standards 11–12 (July 2022) (summarizing research finding that site energy use intensity metric "always favors electrification, even when delivered with inefficient technology, while source energy and the ENERGY STAR score favor electrification only when delivered with efficient technology").

72 *See* Spiegel-Feld & Wyman, *Building Better Building Performance Standards, supra* n.4, at 10269, 10273–74; *see also* Allen *et al.*, *supra* n.16.

73 *Compare Wash. State Bldg. Code Council*, 683 F.3d at 1145, 1151–52 (affirming that Washington state building code's performance-based pathways approach to increasing energy efficiency in newly constructed buildings was not preempted by EPCA), *with Air Conditioning, Heating & Refrigeration Inst.*, 2008 WL 5586316, at *8–*9 (finding, in relevant part, that preliminary injunction against enforcement of Albuquerque building code was justified because several pathways for new buildings' compliance with code efficiency mandates required use of appliances with energy efficiencies greater than federal minimums, and thus code was substantially likely to be preempted by EPCA). BPS policies' lack of overt provisions pertaining to appliance energy use may explain why no policy yet has been challenged on EPCA grounds. *See, e.g.*, Complaint, *Glen Oaks Village Owners, Inc. v. City of New York*, No. 154327/2022 (N.Y. Sup. Ct. May 18, 2022), Dkt. 2 (alleging that N.Y.C. Local Law 97 is preempted by New York State's Climate Leadership and Community Protection Act, violates constitutional due process requirements, and imposes an unauthorized tax).



targets, and can be fuel-neutral if based on energy efficiency (as St. Louis's BPS policy already is), BPSs do not prohibit or effectively prohibit connections to natural gas systems. Even if a BPS policy over time will incentivize reduced natural gas usage, a building can continue to use gas so long as it meets the requisite BPS targets. For similar reasons, Texas municipalities should strongly consider developing and implementing their own BPS policies. If based on energy efficiency, a BPS policy would not have the purpose, intention, or effect of prohibiting, restricting, or discriminating against connections with gas infrastructure, or their construction, installation, or maintenance. Even if reducing or eliminating gas usage might be the economically optimal path to achieve a building's energy efficiency target, the actual initiative to make those changes would come from the building's owner or operator, not from the municipality. Disconnection from gas infrastructure, or restrictions on it, are neither directly nor indirectly compelled by law; from the municipality's perspective, all that matters, and all that is required, is that overall energy efficiencies be achieved.

b. Updating Building Energy Codes

Municipalities cannot rely on BPS policies alone to achieve the decarbonization of their building stocks. BPS policies typically do not cover many smaller structures—such as one- and two-family homes, or small commercial buildings—and to date they have not been designed to substantially affect the performance of most newly constructed buildings. To address emissions and energy efficiency in structures that lie beyond the scope of BPS policies, municipalities therefore must employ different policy tools—principally, changes to local building energy codes.

Not all states permit their municipalities to formulate or amend building codes, but Georgia, Missouri, and Texas do.[74] Consistent with these powers, cities in all three states have planned or begun to implement certain building code-based policies aimed at reducing building emissions. Atlanta, Georgia, and Kansas City, Missouri, for example, have expressed their intention of adopting the International Code Council's 2021 model codes.[75] Houston, Texas also has plans to adopt the International Code Council's 2021 model codes as its own, by 2025, and furthermore has adopted a requirement that certain new homes be designed to permit the installation of solar panels.[76] In Missouri, St. Louis similarly has adopted a solar-readiness ordinance, which applies to new residential, multifamily, and commercial buildings;[77] previously, in 2018, St. Louis updated aspects of its building code to promote greater energy efficiency.[78]

Updating local building codes to reflect at least the latest efficiency standards recommended by model code organizations is an

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74 Ga. Code Ann. § 8-2-25(c)(1) ("In the event that the governing authority of any municipality or county finds that the state minimum standard codes do not meet its needs, the local government may provide requirements not less stringent than those specified in the state minimum standard codes when such requirements are based on local climatic, geologic, topographic, or public safety factors."); Tex. Health & Safety Code Ann. § 388.003(d)–(e); Tex. Loc. Gov't Code Ann. § 214.216(c); Mo. Rev. Stat. § 67.280(2).

75 Decarbonize Atlanta, *supra* n.14, at 23–31; Kansas City, Mo. Climate Protection & Resiliency Plan, *supra* n.14, at 26, 69.

76 Houston Climate Action Plan, *supra* n.14, at 60; Dylan McGuinness, ***Updated Houston Code Requires New Homes to Be "Solar Ready." Here's What That Means***, Houston Chron. (Dec. 21, 2022).

77 St. Louis, Mo. Off. of the Mayor, ***Mayor Lyda Krewson Signs Important Solar Readiness Legislation for New Construction*** (Dec. 23, 2019).

78 St. Louis, Mo. Ordinance No. 70794 (July 6, 2018). For an overview of the changes implemented to the city's energy code through this ordinance, see Jessica Deem, ***Key Changes to City Building Codes Effective Immediately***, NextSTL (Aug. 2, 2018).

important step in driving reductions in emissions from newly constructed buildings, and one encouraged by the IRA, which devotes $1 billion in assistance to states and local governments to aid adoption and implementation of advanced energy codes.[79] Furthermore, implementing building code changes that promote increased energy efficiency are important for bolstering energy resiliency, both for building occupants and electricity networks.[80] However, as Denver, Colorado's experience suggests, further code changes—going beyond the model code minimums—are necessary to support deep decarbonization.[81] Among the many changes that have been implemented or are being considered in Denver, three in particular stand out as potential options for Missouri, Georgia, and Texas municipalities to advance additional reductions in emissions from buildings' on-site uses of fossil fuels.[82]

1 The first change is a pair of proposals that would require that newly constructed buildings be "all-electric ready," even if not all systems initially installed are fully or partially electrified.[83] These code changes will help reduce barriers to future electrification where the use of cost-effective electricity-based systems may not yet be possible. With sufficient electrical infrastructure in place, future owners or operators of a building will be able to electrify systems more cheaply as they become available, rather than struggle to implement expensive electrical retrofits.[84] Assuming the electrical grid continues to decarbonize, these systems can therefore achieve meaningful greenhouse gas reductions upon replacement.

2 The second change is a pair of proposals that would require the partial electrification of space and water heating systems in new commercial buildings, by having buildings rely on electricity-powered units as the first source of space heat and hot water.[85]

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79 Pub. L. No. 117-169, § 50131, 136 Stat. 2041–42.

80 *See* Allen *et al.*, *supra* n.16.; *cf.* Spiegel-Feld & Wyman, *Building Better Building Performance Standards, supra* n.4, at 10269, 10273–74.

81 *See* Denver, Colo. Off. of Climate Action, Sustainability & Resiliency, ***Net Zero New Buildings and Homes: Net Zero Energy (NZE) Resources*** (last visited Sept. 27, 2022).

82 For all proposed amendments, *see* Denver, Colo. Dep't of Cmty. Planning & Dev., ***2022 Building and Fire Code and Denver Green Code Adoption Process: Code Adoption Archive*** (last visited Sept. 27, 2022).

83 Denver, Colo. Dep't of Cmty. Planning & Dev., ***Amendment Proposal 28: IECC C405.14 Commercial Electrification Readiness*** (Oct. 12, 2021). Planning & Dev., ***Amendment Proposal 63: IECC R404.4 Residential Electrification Readiness*** (Oct. 12, 2021). Denver's energy code review committee has recommended that the city adopt these measures for new construction as part of the city's 2022 code adoption cycle. *See* Denver, Colo. Dep't of Cmty. Planning & Dev., ***Minutes of IECC/DGC Energy Committee Hearing #7*** 2–3 (June 23, 2022). A City Council vote is likely in November 2022. *See* Denver, Colo. Dep't of Cmty. Planning & Dev., ***2022 Building and Fire Code and Denver Green Code Adoption Process: Project Overview*** (last visited Sept. 27, 2022).

84 E. Franconi *et al.*, Pac. Nw. Nat'l Lab., **Electric Readiness in Residential Energy Code: Technical Brief iii**, 3–4 (Oct. 2021).

85 Denver, Colo. Dep't of Cmty. Planning & Dev., ***Amendment Proposal P40: IECC C403.2 Partial Space Heating Electrification Commercial*** (n.d.); Denver, Colo. Dep't of Cmty. Planning & Dev., ***Amendment Proposal P38: IECC C404.10 Partial Water Heating Electrification Commercial*** (n.d.). As with the electrification readiness requirements, Denver's energy code review committee has recommended that the city adopt these measures for new construction as part of the city's 2022 code adoption cycle. *See* Denver, Colo. Dep't of Cmty. Planning & Dev., ***Minutes of IECC/DGC Energy Committee Hearing #9*** 2–4 (July 19, 2022). While the energy code review committee considered partial electrification requirements for space and water heating in new residential construction that would have been similar to the requirements for new commercial buildings, the committee ultimately recommended instead that Denver adopt different measures to promote

Denver also has passed an ordinance that similarly requires the partial electrification of space and water heating in existing structures when systems in those buildings are replaced, where cost-effective.[86] In the immediate term, these measure provides significant energy efficiency benefits to structures overall, given the higher efficiency technologies like heat pumps versus gas-fired heating systems,[87] and over the long term they can further reduce the greenhouse gas emissions intensity of space and water heating as the electric grid decarbonizes.

3 The third change is a requirement that equipment capable of both heating and cooling (namely, a heat pump) be installed when a unitary air conditioning unit needs replacement.[88] This policy helps accelerate the electrification of heating systems in existing buildings, since the addition of heat pumps is not tied to replacement of heating infrastructure. This measure should reduce greenhouse gas emissions before buildings' gas-fired heating systems are due for replacement because the ease, speed, and lower operating costs of heat pump use can allow such systems to become building occupants' first choice for heating needs, with gas systems naturally evolving to serve only as back-ups.[89]

In Missouri and Georgia, municipalities should be able to implement all three of the above policies without significant risk of preemption by the states' respective ban on bans statutes. None of the three policies prohibits, or has the effect of prohibiting, connections with natural gas infrastructure, although they may make such connections less attractive from an economic standpoint. For Georgia municipalities, these changes also appear to be consistent with cities' ability to depart upwards from state-wide code minimums, provided that appropriate climactic and/or public safety rationales are identified in the course of code amendment.[90] Atlanta, Georgia already has proposed including such an all-electric-readiness requirement in its updates to its building energy code as part of its 2021 plan for decarbonizing its building stock.[91]

For Texas municipalities, electric-readiness and air conditioning-substitution policies similarly should face low preemption risk. Neither policy prohibits connections with gas infrastructure, nor do they directly or indirectly restrict such connections; notwithstanding these policies, building owners and operators are still at liberty to link their structures with natural gas supply infrastructure without additional impediments. Furthermore, neither policy directly or indirectly discriminates against connections with natural gas infrastructure, since neither policy burdens a building owner or operator's choice to be connected to natural gas supplies; instead, these policies merely

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increased electrification in new homes. *See* Denver, Colo. Dep't of Cmty. Planning & Dev., ***Minutes of IECC/DGC Energy Committee Hearing #6*** 2–9 (Mar. 31, 2022); Denver, Colo. Dep't of Cmty. Planning & Dev., *Minutes of IECC/DGC Energy Committee Hearing # 9*, *supra*, at 4–5; Denver, Colo. Dep't of Cmty. Planning & Dev. ***Minutes of IECC/DGC Energy Committee Hearing #10*** 2–4 (July 26, 2022).

86 Denver, Colo., Council Bill No. 21-1310 § 3 (codified in relevant part at Denver, Colo. Rev. Mun. Code § 10-20). For an overview of the Energize Denver Ordinance's provisions, *see* Denver, Colo. Off. of Climate Action, Sustainability & Resiliency, **Energize Denver Ordinance** (Apr. 6, 2022).

87 *See* Claire McKenna *et al.*, ***RMI, It's Time to Incentivize Residential Heat Pumps*** (June 8, 2020).

88 Denver, Colo. Rev. Mun. Code § 10-20(c)(2).

89 *See* Stephen Pantano *et al.*, CLASP, **3H "Hybrid Heat Homes": An Incentive Program to Electrify Space Heating and Reduce Energy Bills in American Homes** 6, 21 (May 2021); Matt Malinowski *et al.*, CLASP, **Combatting High Fuel Prices with Hybrid Heating: The Case for Swapping Air Conditioners for Heat Pumps** 12, 15, 26–27 (July 2022).

90 Ga. Code Ann. § 8-2-25(c)(1). Missouri does not maintain state-wide building codes, although it regulates certain aspects of building construction. *See, e.g.*, Mo. Rev. Stat. §§ 320.010–320.080 (fire protection).

91 Decarbonize Atlanta, *supra* n.14, at 30.

create opportunities for building owners and operators to use natural gas services less intensely.92 The partial electrification of heating equipment policy, however, may face a higher risk of being found preempted because it directly restricts the usage of certain gas powered appliances. In forcing space and water heating needs to be met in the first instance with electricity-powered options, with gas-fired systems serving only as back-ups, this policy might be seen as an *indirect* restriction on connections to gas networks, since it creates an unavoidable limit on natural gas consumption.

From a federal law perspective, none of the foregoing policies should be subject to preemption under EPCA. As an initial matter, an electric-readiness requirement deals with energy availability in a building, not the "energy use" or "energy efficiency" of any appliance contained therein, and so is upstream of matters that may be subject to EPCA's preemption bar.[93]

With respect to the partial electrification of heating equipment and air conditioning-substitution policies, although the caselaw is sparse it is doubtful that such measures are ones "concerning the energy efficiency, energy use, or water use of [a] covered product," as that phrase is used in the statute. As noted elsewhere in this paper, "energy use" and "energy efficiency" are defined terms with meanings that are particular to EPCA.[94] Both "energy use" and "energy efficiency" are appliance performance metrics that the U.S. Department of Energy determines in accordance with testing procedures created by EPCA[95]—procedures that are designed "to produce test results which measure energy efficiency, energy use, water use . . . or estimated annual operating cost of a covered product *during a representative average use cycle or period of use*."[96] Thus, even if the word "concerning" merely means "relating to,"[97] the statutory phrase "concerning the energy efficiency, energy use, or water use of [a] covered product" evidently encompasses a narrower set of circumstances than colloquial usages of the terms "energy use" or "energy efficiency" might suggest.

The partial electrification and air conditioning-substitution policies outlined above fairly fall outside this zone of possible EPCA preemption. While they may lead consumers to satisfy their heating needs by alternating among different technologies of different efficiencies relative to one another, neither policy regulates (or attempts to regulate) the "useful outputs"[98] of the covered products themselves, or the "energy directly consumed"[99] during a typical use-cycle of each covered product. Rather, both policies can be satisfied by using equipment that does not exceed federal minimum standards for energy use and energy efficiency. This makes these policies fundamentally unlike building code provisions that have been found in the past both to "concern" "energy use" or "energy efficiency" and to

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92 *See* Pantano *et al.*, *supra* at n.89; *see also* Malinowski *et al.*, *supra* at n.89.

93 *Cf. Cal. Rest. Ass'n*, 547 F. Supp. 3d at 890–92. Furthermore, to the extent that energy availability is at all connected to "energy use" or "energy efficiency," an electric-readiness requirement is fundamentally unlike a gas ban, as it ensures that electric energy can be fully utilized at a property, rather than excluding one of several energy source alternatives. *See id.*

94 *See* n.51, *supra*.

95 42 U.S.C. § 6291(4)–(5) (stating that "'energy use' means the quantity of energy directly consumed by a consumer product at point of use, *determined in accordance with test procedures under section 6293 of this title*" and that "'energy efficiency' means the ratio of the useful output of services from a consumer product to the energy use of such product, *determined in accordance with test procedures under section 6293 of this title*." (emphasis added)).

96 42 U.S.C. § 6293(b)(3).

97 *See Air Conditioning, Heating & Refrigeration Inst.*, 2008 WL 5586316, at *6–*7 (quoting Black's Law Dictionary 289 (6th ed. 1990)).

98 42 U.S.C. § 6291(5).

99 42 U.S.C. § 6291(4).

trigger EPCA's preemption bar.[100]

In addition, code measures mandating that unitary air conditioning units be replaced by heat pumps should be permissible under the Dormant Commerce Clause. Unlike many policies that have been deemed to violate the Dormant Commerce Clause, such measures would not have the effect of privileging in-state producers over out-of-state ones, since they do not differentiate among air conditioners and heat pumps based on where they are produced. Moreover, considering the total energy cost and greenhouse gas savings that can be achieved through heat pump use,[101] the local benefits of substituting heat pumps for unitary air conditioning units likely far outweigh any incidental burdens such measures impose on the flow of interstate trade, making them acceptable under the Dormant Commerce Clause.

Beyond adopting building code amendments that directly promote energy efficiency and reduced greenhouse gas emissions, municipalities also should implement changes that better protect public health. Spaces where fossil fuels are burned indoors without proper ventilation—notably kitchens—often have air pollution levels that would be deemed hazardous were the same levels of pollution present outdoors.[102] Gas appliances not only threaten health by producing hazardous levels of nitrogen oxides and carbon monoxide through combustion, but also by leaking fuel components while turned off, including chemicals such as benzene, a known carcinogen.[103] To ensure safer indoor air quality, spaces like kitchens could be required either to have only electrical appliances installed or to be ventilated in a manner capable of bringing indoor air pollutant levels below an appropriate threshold. Such an electrification-or-ventilation requirement should not be preempted in Missouri and Georgia by either state's ban on bans: at a minimum, natural gas could still be used for other building

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100 By contrast, Albuquerque's building code provisions required (or effectively compelled) the adoption of heating and cooling devices that were *more* efficient than equipment of the same type that merely met federal standards. *See Air Conditioning, Heating & Refrigeration Inst.*, 2008 WL 5586316 at *8–*9. For example, it appears that the Albuquerque code, had it gone into effect, would have required a builder to install a high-efficiency model air conditioning unit when installing any air conditioning at all, or else have penalized the choice of a minimally efficient air conditioning unit by requiring expensive energy saving fittings elsewhere.

Furthermore, even if the partial electrification and air conditioning-substitution policies highlighted in this paper were regulations "concerning the energy efficiency, energy use, or water use of [a] covered product," it seems likely that they still could qualify for the building code exemption provided by EPCA. Although both policies facially mandate the use of particular types of products, *cf. Cal. Rest. Ass'n*, 547 F. Supp. 3d at 892, the products required by these policies need not exceed federal standards for energy use and efficiency (as previously noted). This quality of these policies should satisfy the second of the seven statutory requirements for a building code to be exempt from EPCA preemption—namely, that "[t]he code does not require that the covered product have an energy efficiency exceeding the applicable energy conservation standard established in or prescribed under section 6295 of this title," 42 U.S.C. § 6297(f)(3)(B). Moreover, even with these particular mandates in place, a properly crafted code could still, *inter alia*, enable "a builder to meet an energy consumption or conservation objective for a building by selecting items whose combined energy efficiencies meet the objective," 42 U.S.C. § 6297(f)(3)(A).

101 *See* Pantano *et al.*, *supra* at n.89; *see also* Malinowski *et al.*, *supra* at n.89.

102 *See* Zhu *et al.*, *supra* n.6.

103 *See* Drew R. Michanowicz *et al.*, ***Home is Where the Pipeline Ends: Characterization of Volatile Organic Compounds Present in Natural Gas at the Point of the Residential End User***, 56 Envtl. Sci. & Tech. 10258 (2022) (finding, inter alia, benzene in 95% of natural gas samples collected from residences in Boston, Mass. area, and estimating that "120–356 kg/yr of annual [natural gas] benzene emissions throughout Greater Boston are not currently accounted for in emissions inventories, along with an unaccounted-for indoor portion").

systems, and could even be used in kitchens if the ventilation requirements were met. In Texas, an electrification-or-ventilation policy may be at somewhat greater risk of preemption because it might be seen as a measure "discriminating against" gas network connections, since gas-fueled kitchens could become more expensive to construct if additional ventilation is required. However, because the ventilation requirement could be closely tied to health impacts that are unique to fuel gas usage, the burden placed on gas arguably would not be undue; the differential treatment accorded to gas would not be "discrimination," so much as regulation allowing it to be used with greater safety.

c. Revising Permitting & Zoning Incentives

A third category of policies that can promote reductions in buildings' direct greenhouse gas emissions are changes to local building permit processes and to zoning rules that incentivize applicants not to install natural gas infrastructure or to burn fossil fuels on-site.

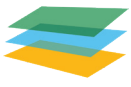
Texas municipalities are more restricted in their ability to implement permitting and zoning incentives than either Missouri or Georgia ones are, because of the language in the Texas ban on bans statute. As noted earlier, Texas's law forbids municipalities from imposing any "additional charge or pricing difference on a development or building permit applicant" that either encourages the applicant to connect to a utility based on the type of energy to be delivered, or discourages the applicant from installing utility infrastructure based on the type of energy to be delivered.[104] As a result, a Texas municipality cannot make a permit for the installation of gas infrastructure cost more than a permit for the installation of electrical infrastructure, solely for the purpose of steering permit applicants towards all-electric construction; similarly, the municipality cannot make a permit for electrical infrastructure cheaper. Such preferential pricing differences, however, are not foreclosed by Missouri and Georgia's ban on bans statutes, provided that the costs imposed on gas infrastructure permit applicants are not so great as to effectively prohibit connections to local gas networks.[105] Texas municipalities also cannot adjust their permitting procedures so that gas infrastructure permit applicants must wait longer than permit applicants for electrical infrastructure, solely because the applicants seek to install gas lines, since such a policy likely would be found to "discriminate against" connections with gas utilities. By contrast, Missouri's and Georgia's ban on bans statutes do not forbid municipalities from imposing such extended waiting times, provided that the waiting periods were not so long as to functionally prohibit gas connections.[106]

Although varying permit costs and waiting times for the purpose of making gas connections less attractive could be an important tool in shifting permit applicant preferences, as applicants look to reduce their marginal costs and speed their projects' completion, it is just as vital that municipalities ensure their permitting procedures do not disincentivize the use of electricity-based systems. Here again Denver's example is instructive. While Denver's permitting process historically made it more difficult for electric heat pump systems to be installed than gas-fired heating systems, beginning in 2023 heat pumps and gas-fired heating systems will be subject to equivalent permitting procedures. Instead of automatically allowing a gas-fired system to be replaced like-for-like, a building owner or operator will need to apply for a permit to replace

104 Tex. Util. Code Ann. § 181.903(c).

105 It should be noted, however, that localities also would need to ensure that differential permit prices could be justified under other state laws that may be applicable to permit issuances, including laws governing localities' authority to set fees for services and/or to impose taxes.

106 Missouri and Georgia localities may, however, need to be mindful of potential due process challenges arising from such different processing times.



a building's gas-fired system and include with the application both an electrification feasibility report and satisfactory results of a gas line pressure test.[107] Municipalities in Missouri, Georgia, and Texas should consider similar changes to their own permit processes, to the extent that electric heat pumps also may be disadvantaged under current permitting procedures. By reducing barriers to electrification, municipalities can allow the cost and efficiency advantages of technologies like heat pumps to become more apparent. Such permit issuance equalization should not be at meaningful legal risk in any of the three states, since it merely ensures a level playing field for gas- and electricity-based systems.

With respect to zoning, neither Georgia's nor Missouri's ban on bans statute prevents municipalities from implementing measures tied to land use that would incentivize electrification. For example, Georgia and Missouri municipalities could grant bonuses that allow for greater housing density than is typical for a given zoning district when the housing is planned to be all-electric; similarly, they could grant commercial buildings floor area ratio bonuses for being all-electric. Rather than serving as prohibitions on gas infrastructure, these policies would merely be carrots in favor of electrification, taken up solely at developers' discretion.

As for Texas municipalities, Texas's ban on bans *might* obstruct zoning policies like the ones above, because they could be seen as "discriminating against" the installation of natural gas infrastructure. However, because developers would be under no legal compulsion to seek out the density or floor area ratio bonuses in the first place, this argument is weaker than the discrimination argument that might be raised against a policy extending wait times for permits for gas-powered building systems; unlike a municipality's policy varying permit wait times for the purpose of incentivizing all-electric construction, here a municipality's ordinary zoning rules still would not distinguish between buildings powered by gas and by electricity. To the extent that a Texas municipality still might be concerned about the legality of zoning incentives that facially favor all-electric construction, as an alternative it could consider housing density or floor area ratio bonuses based on energy efficiency performance targets.[108] By using energy efficiency as the policy foundation, the density or floor area ratio bonuses could be awarded on a fuel-neutral basis, clearly satisfying the non-discrimination component of the Texas ban on bans statute. At the same time, the increased efficiency required for these zoning bonuses to apply still could ensure a project achieved greenhouse gas savings, both from the electricity it consumes and from the fossil fuels it might burn on-site, much as an energy efficiency-focused BPS policy drives such savings.

d. Providing Subsidies for Electrification & Energy Efficiency

A fourth category of policies that municipalities can deploy to reduce emissions from their building stocks consists of subsidy programs that would require participants to implement measures to reduce their emissions and/or achieve energy efficiency savings. This is

107 Denver, Colo. Rev. Mun. Code § 10-20(b)(1), (b)(3); Denver, Colo. Off. of Climate Action, Sustainability & Resiliency, ***Electrification Requirements: FAQs*** (last visited Sept. 27, 2022).

108 *See* Jordan Gerow *et al.*, ***Legal Pathways to Deep Decarbonization in the Fields of Land Use and Zoning*** 14 (Widener Law Commonwealth Research Paper No. 21-24, 2021) (describing Minneapolis, Minnesota floor area ratio bonus for energy efficient developments and Charleston, South Carolina height and density bonuses for developments that, *inter alia*, seek LEED certification, and noting that "[t]hese types of tools remain valuable where stricter local requirements are not politically feasible or are prohibited by state law").

a very varied category of policy measures, with multiple possible design choices; among other factors, municipalities must consider whether subsidies will be offered directly or indirectly (*e.g.*, through cash grants or loans, or through measures like tax abatements), and which constituents will be targeted (*e.g.*, commercial building owners, or low-income homeowners). Some cities already have subsidies in place for improved building performance. For example, in 2018 Houston, Texas enacted a tax abatement program for new commercial buildings in designated reinvestment zones that are constructed to LEED-certification standards; under this program, a building's amount of abatement increases in tandem with the LEED certification level it achieves.[109]

In developing new subsidy programs or extending existing ones, local governments should be mindful of the numerous direct spending programs and tax credits now available through the IRA, many of which can help reduce buildings' emissions intensities. Among other measures, the IRA contains tax credits to offset the costs of new heat pumps and certain other high efficiency appliances; for households with incomes up to 150% of an area's median income, the IRA additionally contains funding for rebates for heat pump purchases and certain other purchases that increase household electrification.[110] When shaping their programs, municipalities should carefully consider whether they wish to layer on additional benefits for actions that already are subsidized by the IRA, or if their communities would reap greater benefits by spending resources on other interventions to reduce building emissions and promote public health.

Subsidy programs promoting building decarbonization are not forbidden by any of Georgia's, Missouri's, or Texas's ban on bans statutes. In the case of Georgia and Missouri, it is readily apparent that subsidy programs, like other incentive programs, do not prohibit the use of gas, and so plainly fall outside the scope of the applicable ban on bans law. As for Texas, subsidy programs should not be seen as restricting or discriminating against gas infrastructure: like zoning bonuses, subsidy programs place no legal compulsion on individuals or businesses to participate, and hence place no burden on a consumer's choice to remain connected to natural gas infrastructure.[111]

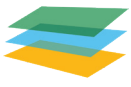
e. Raising Awareness Through Mandatory Information Disclosures & Public Education

Finally, municipalities might consider developing and implementing policies to promote greater knowledge of the climate and public health harms caused by on-site fossil fuel use, as well as of the benefits of building decarbonization and of opportunities to decrease on-site combustion. These policies could take one of two basic forms, namely, mandatory information disclosures and public education campaigns. Although disclosures and public education efforts work in different ways, they share a goal of enriching the information environment, with the aim of inducing shifts in economic and social behavior; in theory, when businesses and residents have access to more

109 Houston, Tex. Ord. No. 2018-391, § 2 (Ex. A) (May 16, 2018); Houston, Tex. Code of Ord. § 44-131.

110 Pub. L. No. 117-169 §§ 13301, 50122, 136 Stat. 1941–46, 2036–41.

111 Furthermore, it should be noted that proponents of the Texas's ban on bans law repeatedly insisted at the time of its passage that it was not intended to prevent municipalities adopting policies such as offering rebates for energy efficient appliances, energy storage, or clean energy technology adoption. *See, e.g.*, Tex. H. Research Org., Bill Analysis: H.B. 17 (2nd Reading), *supra* n.43.



information (and information that is better in quality), they will adjust their conduct and seek better goods, services, and/or environmental conditions.

Mandatory disclosure policies related to energy usage have been implemented in a number of jurisdictions. One common form of disclosure is benchmarking, where buildings (generally over a certain size threshold) are required to monitor their systems' energy use and report their data to the relevant municipality, which in turn often publicly discloses performance metrics and makes available inter-building comparisons. Collecting and disseminating energy use information through benchmarking is supposed to help building owners and operators to think critically about their buildings' energy consumption and to look for efficiency gains; over time, these improvements are meant to benefit both the municipality as a whole, by reducing buildings' environmental impacts, and individual owners and operators, by reducing operating costs and increasing buildings' value and attractiveness to tenants or future purchasers.[112] Currently, dozens of jurisdictions across the country require at least some buildings to benchmark their energy performance, including Atlanta, Georgia; Austin, Texas; and St. Louis and Kansas City, Missouri.[113]

Another form of required disclosure related to energy use is disclosure of household utility costs, either to prospective home purchasers or to prospective tenants.[114] With respect to homes for ownership, utility cost disclosures are meant to help home purchasers understand their future energy costs and identify efficiency upgrades early on in their tenures, since they will know upfront how expensive their homes are to operate.[115] With respect to tenants, utility cost disclosures are intended to help them better identify units that are, overall, the least expensive to rent; tenant-oriented utility disclosures also are supposed to induce landlords to make efficiency upgrades to their properties, since energy-wasting homes and apartments will be less attractive to prospective renters given the added costs caused by inefficient energy use.[116]

We are not aware of any jurisdiction that has considered or required disclosures regarding the negative health effects attributable to the on-site combustion of fossil fuels. However, disclosures already are required for other public health hazards. For example, the federal government requires that home sellers and residential landlords disclose to purchasers and tenants, respectively, known information regarding the presence of lead-based paint and related hazards in their properties, as well as provide purchasers and tenants with the U.S. Environmental Protection Agency's pamphlet concerning measures that can reduce household lead exposure.[117] Meanwhile, many states require the disclosure of information related to other health and safety risks—such as information regarding radon gas—in residential real estate transactions.[118] As research

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112 *See* U.S. Envtl. Prot. Agency, **Building Energy Benchmarking and Transparency: Overview for State and Local Decision Makers** 2–3 (Feb. 2021).

113 Inst. for Mkt. Transformation, **U.S. City, County, and State Policies for Existing Buildings: Benchmarking, Transparency, and Beyond** (July 2022).

114 *See, e.g.*, Chicago, Ill. Mun. Code ch. 5-16; Montgomery Cnty., Md. Dep't of Entl. Prot., **Energy Disclosure for Home Sales** 1 (n.d.); Minneapolis, Minn., ***Renter Energy Disclosure*** (last visited Sept. 27, 2022). Kansas City, Missouri recently has announced its intention to require home energy use disclosures when residences are leased or sold. *See* Kansas City, Mo. Climate Protection & Resiliency Plan, *supra* n.14, at 68.

115 *See* Montgomery Cnty., Md. Dep't of Entl. Prot., Energy Disclosure for Home Sales, *supra* n.114, at 1.

116 *See* Minneapolis, Minn., *Renter Energy Disclosure*, *supra* n.114.

117 U.S. Dep't of Hous. & Urb. Dev., ***The Lead Disclosure Rule*** (last visited Sept. 27, 2022).

118 See, e.g., Cal. Civ. Code § 1102.6; Del. Code Ann. tit. 6, § 2572A; 420 Ill. Comp. Stat. 46/25; Kan. Stat. Ann. § 58-3078a; Me. Rev. Stat. Ann. tit. 14, §

continues to accumulate regarding the harms caused by exposure to poor indoor air quality, mandating disclosures related to the health risks attending on-site combustion could be an appealing, low-cost policy intervention. When provided with appropriate information related to the health impacts of gas-fired appliances, purchasers and tenants may be induced to invest in measures that improve air flow in their homes, including simple behavioral changes like cooking only with open windows. Disclosure might also prompt prospective home purchasers to replace gas-fired appliances with all-electric models, while tenants might shift their preferences in favor of landlords providing all-electric properties.

From a legal perspective, none of these policies appears to fall within the scope of any of the relevant ban on bans statutes. Even in Texas, which has the broadest of the three bans on bans under consideration in this paper, benchmarking policies should be acceptable, because they do not restrict or "discriminate against" gas infrastructure. To a greater degree than even under a BPS policy, building owners and operators—not a municipality—initiate any changes to building energy systems and use that flow from a benchmarking policy. Similarly, utility cost disclosures and/or disclosures regarding the health effects of gas appliances should not be preempted by Missouri's, Georgia's, or Texas's ban on bans laws, since they only would compel the dissemination of information, and any subsequent terminations of gas connections would solely be at unit owners' or operators' discretion. In addition, none of the types of mandatory disclosures discussed in this paper appears to be at meaningful risk of preemption by federal law.[119]

While likely acceptable under each state's ban on bans statute, mandatory disclosure policies can have relatively limited or poorly distributed practical effects. For example, energy benchmarking policies seem to induce energy efficiency gains that, while not insubstantial for individual building operators, are not sufficient to achieve a safe climate trajectory.[120] Thus, while generating positive investments in local building stocks, benchmarking

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6030-D; Minn. Stat. Ann. § 144.496; N.J. Stat. Ann. § 26:2D-73; Texas Prop. Code § 5.008.

119 Because mandatory disclosures are a form of compelled speech, municipalities should be aware that First Amendment concerns may arise from implementing such policies. However, the test courts employ to determine whether a governmental entity is not permitted to compel the disclosure of truthful information is fairly generous, and we believe the risk of a successful First Amendment challenge would be low. *See Zauderer v. Off. of Disciplinary Counsel of Sup. Ct. of Ohio,* 471 U.S. 626, 651 (1985) ("[W]e hold that an advertiser's rights are adequately protected as long as disclosure requirements are reasonably related to the State's interest in preventing deception of consumers.").

120 Building Energy Benchmarking and Transparency, *supra* n.112, at 2 (noting EPA estimate of 2.4% efficiency gains per annum for benchmarked buildings); Karen Palmer & Margaret Walls, ***Does Information Provision Shrink the Energy Efficiency Gap?: A Cross-City Comparison of Commercial Building Benchmarking and Disclosure Laws*** (Resources for the Future Discussion Paper 12-15, Apr. 2015) (finding that "enactment of benchmarking laws has led to about a 3 percent reduction in quarterly utility bills in buildings covered by the laws in" New York, San Francisco, Seattle, and Austin); Natalie Mims *et al.*, Lawrence Berkeley Nat'l Lab., **Evaluation of U.S. Building Energy Benchmarking and Transparency Programs: Attributes, Impacts, and Best Practices** (Apr. 2017) (reporting meta-analysis results "indicat[ing] 3 to 8 percent reductions in gross energy consumption or [energy use intensity], over a two- to four-year period of [benchmarking and transparency] policy implementation"). *But see* Ting Meng *et al.*, ***Measuring Energy Savings from Benchmarking Policies in New York City*** (ACEEE Summer Study on Energy Efficiency in Buildings, 2016) (finding that after New York City's benchmarking law was implemented, "the total disclosure policy can be credited with a 6% reduction in building energy use intensity (EUI) three years later and a 14% reduction in EUI four years later," and "the disclosure of Energy Star scores decreased building EUI by 9% three years later and 13% four years later").

policies on their own do not appear to be an effective climate change mitigation tool. Meanwhile, federally-mandated lead disclosures—which might be a model for gas-related health hazards disclosures—appear to have been uneven in their potency. While lead paint disclosures seem to have been somewhat effective overall in increasing lead paint testing and paint maintenance and in reducing the likelihood that families with young children will inhabit older housing, those effects appear not to have been as strong among low-income households, whose children are most at risk of suffering lead poisoning.[121] If municipalities consider mandating disclosures regarding gas appliances' risks, they should be mindful that low-income households face many barriers to taking action beyond lack of access to information, which mandatory disclosures alone cannot solve.

Even if disclosure policies, on their own, may not shape certain behaviors as much as needed or desired, they can help build bridges to more ambitious actions. Benchmarking, in particular, appears to have been instrumental in laying the groundwork for BPS policies, as many of the jurisdictions that have begun implementing BPSs previously enacted benchmarking programs. By first implementing benchmarking, these municipalities gained important experience in understanding their local building stocks and in managing energy data collection and analysis. Benchmarking also enabled these municipalities to establish regular links with local building owners and operators, paving the way for further engagement with them in energy-related matters.[122]

Besides mandatory disclosures, municipalities may invest in public education measures, which long have been a fundamental tool in their efforts to shape residents' behavior, including with respect to environmental challenges and public health threats. While public education can be a fruitful way to address these issues—and also appears to be beyond the scope of Georgia's, Missouri's, and Texas's ban on bans laws—campaigns related to building emissions should be properly tailored, to help ensure their success. For example, education efforts aimed at the general public regarding the role buildings' emissions play in contributing to climate change at large seem unlikely to meaningfully advance building decarbonization; the connection between these large-scale impacts and residents' individual actions are too attenuated to motivate changes in residents' behavior.

By contrast, concerted education efforts to promote heat pumps that are targeted at homeowners, landlords, building managers, architects, and/or contractors seem more promising. Two of the major barriers to widespread heat pump adoption have been the technology's relative unfamiliarity and comparative expense, versus traditional air conditioning.[123] By focusing on addressing these issues with key decisionmakers in the building construction and renovation process, municipalities have a higher probability of seeing the information they provide turn into concrete action; these groups will have a preexisting disposition to take actions that benefit their bottom lines, and education regarding the cost savings heat pumps can provide are likely to be appealing. Successful uptake further seems likely in light of the IRA's significant subsidies for heat pump adoption;[124] municipalities now have the opportunity to explain not only how heat pumps can produce substantial energy cost savings over

121 Hyunhoe Bae, ***Reducing Environmental Risks by Information Disclosure: Evidence in Residential Lead Paint Disclosure Rule***, 31 J. Pol'y Analysis & Mgmt. 404, 416–26 (2012).

122 Building Energy Benchmarking and Transparency, *supra* n.112, at 2–4.

123 *See* Pantano *et al.*, *supra* n.89, at 10.

124 Pub. L. No. 117-169 §§ 13301, 50122, 136 Stat. 1941–46, 2036–41.

POLICY TYPE / STATE	MISSOURI	GEORGIA	TEXAS
Natural Gas Ban	●	●	●
Building Performance Standards	●	●	●
Building Codes	●	●	●
Permit & Zoning Incentives	●	●	●
Local Subsidies	●	●	●
Public Education Measures	●	●	●

● Substantial Opportunities ● Reduced Opportunities ● No Opportunities

Fig. 1. Summary of Policymaking Opportunities Under State Ban on Bans Statutes

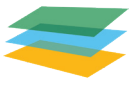
time, but also how resources are available in the present day to make heat pumps the most cost-savvy approach to meeting buildings' heating and cooling needs. In so doing, municipalities can accelerate uptake of a key climate change-fighting technology.

VI. Conclusion & Recommendations

While Missouri's, Georgia's, and Texas's bans on bans may be discouraging, municipalities and their partners should not treat them as preventing all further efforts to reduce building emissions and to promote safe indoor air quality. As discussed above, local governments in Missouri, Georgia, and Texas retain a range of policy options that can meaningfully contribute to progress on climate change and public health. At a minimum, we recommend that municipalities take the following steps to begin the process of reducing building emissions:

1 **Increase efforts to decarbonize their own operations.** Comprehensive greenhouse gas emissions reductions in a given locality cannot occur without a municipality implementing measures to clean up its own operations. Decarbonizing municipal buildings not only is necessary to achieve emissions goals, but also can help reduce local opposition to implementing similar measures for the private sector, as the local government leads by example.

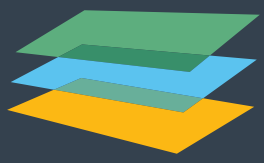
2 **Require benchmarking and plan to implement BPSs.** Energy benchmarking is now practiced in a large number of jurisdictions across the country, and there are many resources available to help support policy development and deployment. Benchmarking on its own, however, is not sufficient to drive the emissions reductions needed for climate change progress; rather, it is best seen as a step towards developing and implementing BPS policies, providing the baselines from which efficiency goals and timelines can be developed. When implementing BPSs, municipalities should strongly consider basing their programs on energy efficiency targets, because of their additional benefits to building occupants and electricity grids.



3 **Update building energy codes.** BPSs generally only address energy efficiency and/or greenhouse gas emissions from existing buildings, usually over a certain square footage threshold. To increase energy efficiency and reduce greenhouse gas emissions in new buildings, or in buildings too small to be covered by BPS targets, changes to building energy codes are necessary, to ensure that emissions savings come from a municipality's entire building stock. These changes also can help bolster the resiliency of electricity grids and buffer fluctuations in building occupants' energy costs. The IRA provides $1 billion to help states and municipalities adopt and implement advanced energy-saving building codes; municipalities that have the power to adopt their own local building codes should make every effort to participate in this program.

4 **Engage in targeted public outreach and education.** Education efforts that promote specific building emissions mitigation techniques are more likely to succeed than general messaging regarding climate change. Education directed at key decisionmakers in building construction and renovation—principally homeowners, landlords, building managers, architects, and contractors—seems especially valuable, since these actors are the ones who will implement structural decarbonization measures. Municipalities should emphasize opportunities to qualify for available subsidies, such as the IRA's subsidies for heat pumps.

Although this paper has not considered other states' laws in detail, we believe the same policy opportunities are available in many—if not most—of them. With time to avoid the worst effects of climate change running short, local governments everywhere must act swiftly using the tools they have available.



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