



DC Electrification Challenge



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Electrification happens, but our code is not



Oregon State Hospital
Junction City, OR
220,000 SF, 174 beds
Geo-exchange + Onsite solar PV | Carbon Neutral



DGS 10th & O Street
Sacramento, CA
478,000 SF
LEED Platinum | Offsite dedicated solar PV |
Carbon Neutral



Rhode Island State Public Health Lab
Providence, RI
212,000 SF
LEED Gold *target* | 90% fossil fuel reduction/electrification

Decarbonization is necessary for health + climate

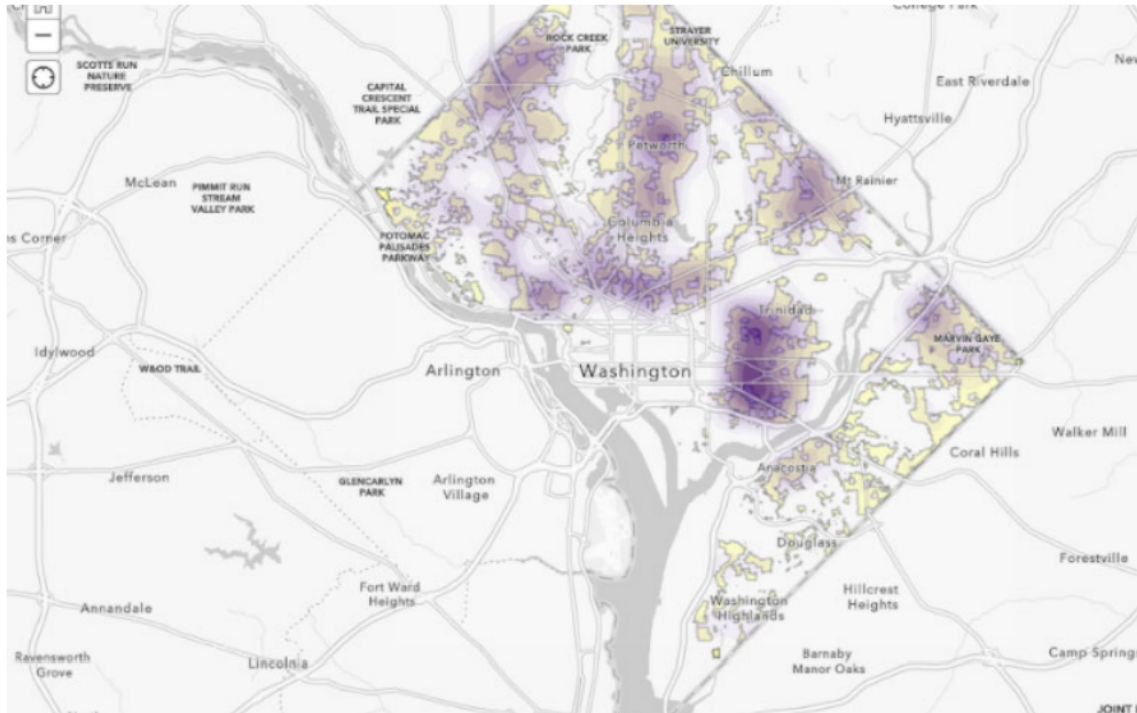


Figure 3. Density of methane emission point distributions.

2006	Green Building Act	LEED, most public + private construction
2010	Clean + Affordable Energy Act	Benchmarking: phase in public + private construction 10,000+ sf
2014	Green Construction Code	Covers everything not under the GBA
2019	Fugitive Methane Survey	6.2% leak rate @ 3,346 locations, 4.7 leaks per centerline road mile; \$24M cost to rate payers
2020	EV Readiness Act	20% new parking is EV ready
2021	Clean Energy DC Act	BEPS Cycle 1, Energy Star-based; no fossil fuel equipment in Rx compliance paths
2022	DC SEU contract	Elimination of nat gas incentives from SEU
2023	<i>Proposed</i> energy code	Electrification, new bldgs; Appendix G shift from energy cost to site energy/GHG
2025	Climate Commitment Act	Electrification of DC-owned/financed bldgs
2026	Building Code Amendment Act	Net Zero bldg code + electrification, all bldgs
2027	Clean Energy DC Act	BEPS Cycle 2... Trajectory/GHG-based?
2032	Clean Energy DC Act	100% RPS/fossil fuel-free grid, 10% solar
2045	Climate Commitment Act	DC is Carbon Neutral

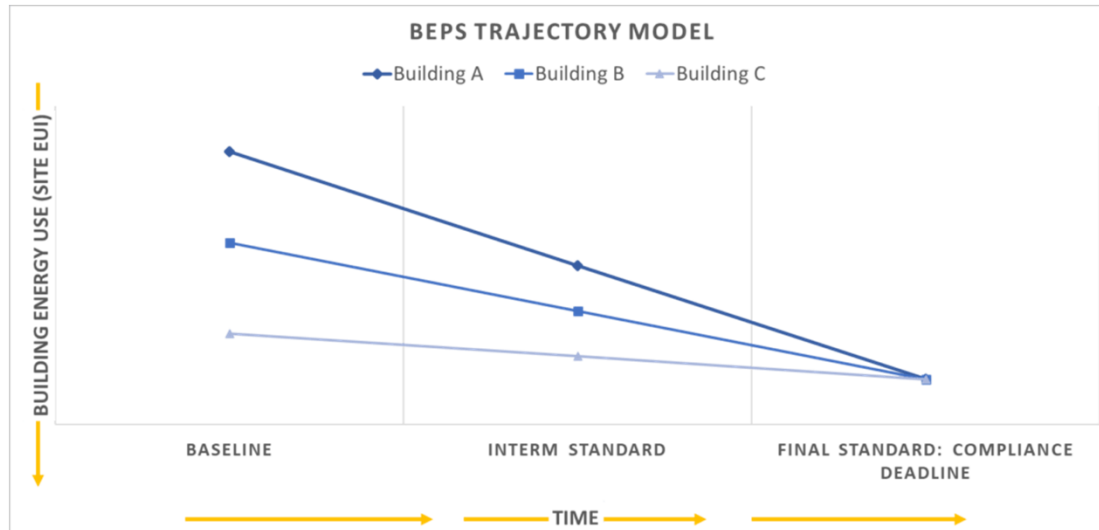
Market perception -> code obstacles

- Market *perceives* electrification as technically complex, difficult to overcome
- Market *perceives* electrification as \$\$\$
- Market *perceives* electrification as a “future” requirement, can be delayed
- Asset valuation *does not yet* signal preference for decarbonized/fully electric buildings



Howard County Circuit Courthouse
Ellicott City, MD
238,000 SF, 12 courtrooms
LEED Gold | 60% onsite generation + offsite generation

Consequences of delaying electrification



- BPS will be based on GHG
- Equity investment firms already basing (re)cap rates on Benchmarking, BPS
- Historic market preference for “green” buildings
- ESG focus: tenants will seek decarbonized bldgs. to improve Scope 1 & 2 metrics
- Nat Gas rates will escalate (MD study predicts 10x by 2050)
- Cost of retrofits
- Stranded assets

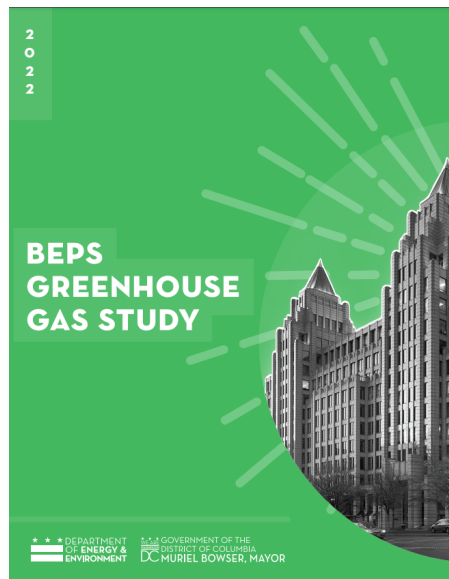


Exhibit 1: General Result Comparisons of Three Studies to Date on Rents, Occupancy and Values

	Miller, Spivey, & Florance	Fuerst and McAllister	Eicholtz, Kok & Quigley
Rent			
Green Buildings			\$29.80
Energy Star	\$30.50	\$29.34	
LEED	\$42.15	\$27.07	
Control Sample	\$28.00	\$24.68 (all sample)	\$28.16
Occupancy Rate			
Green Buildings			88.99%
Energy Star	91.5%	88.40% (median)	
LEED	92.0%	88.40% (median)	
Control Sample	87.8%	86.06% (all median)	81.35%
Regression model controlled Log of Effective Rent Per Sq Ft			
LEED Rent Differential %		9.2%	4.4%
Energy Star Rent Differential %		11.6%	8.9%
Value Per Sq Ft (regression result)			
LEED	9.9%	31.4%	
Energy Star	5.3%	10.3%	

Regarding building electrification, to achieve DC Metro's Climate, Health & Equity goals, a critical obstacle to collectively overcome in 12 months is:

- Technical case studies
- Asset valuation impact study



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