

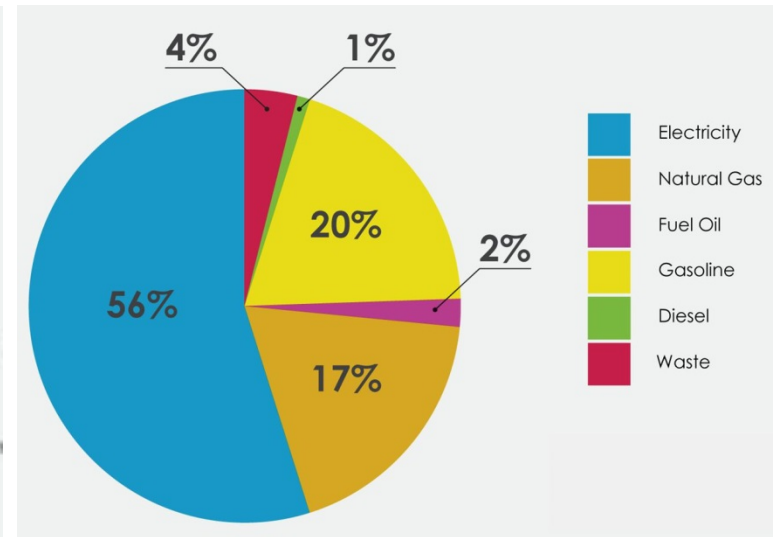
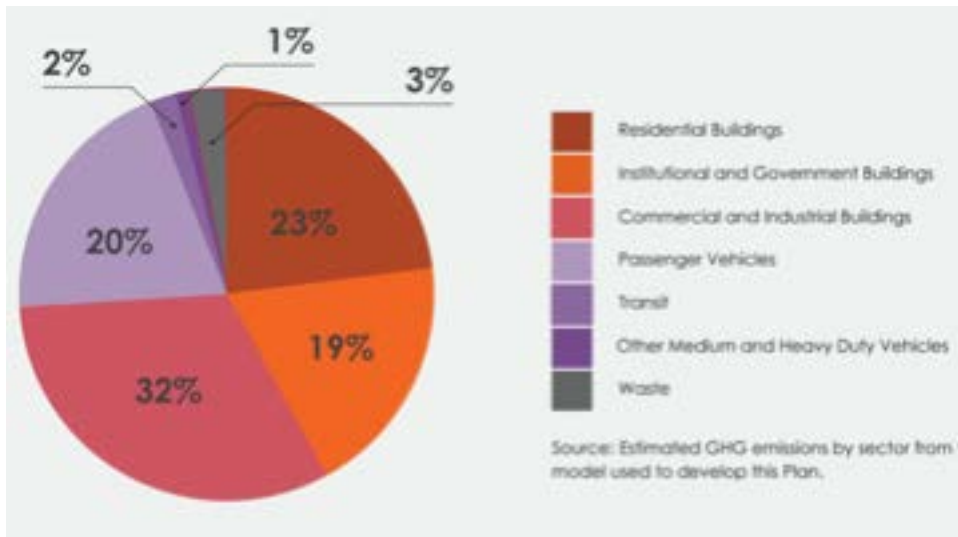
BUILDING EFFICIENCY IN D.C.

6.26.2018 SYMPOSIUM ON ENERGY EFFICIENCY AND CITIES

Edward Yim, Energy Administration



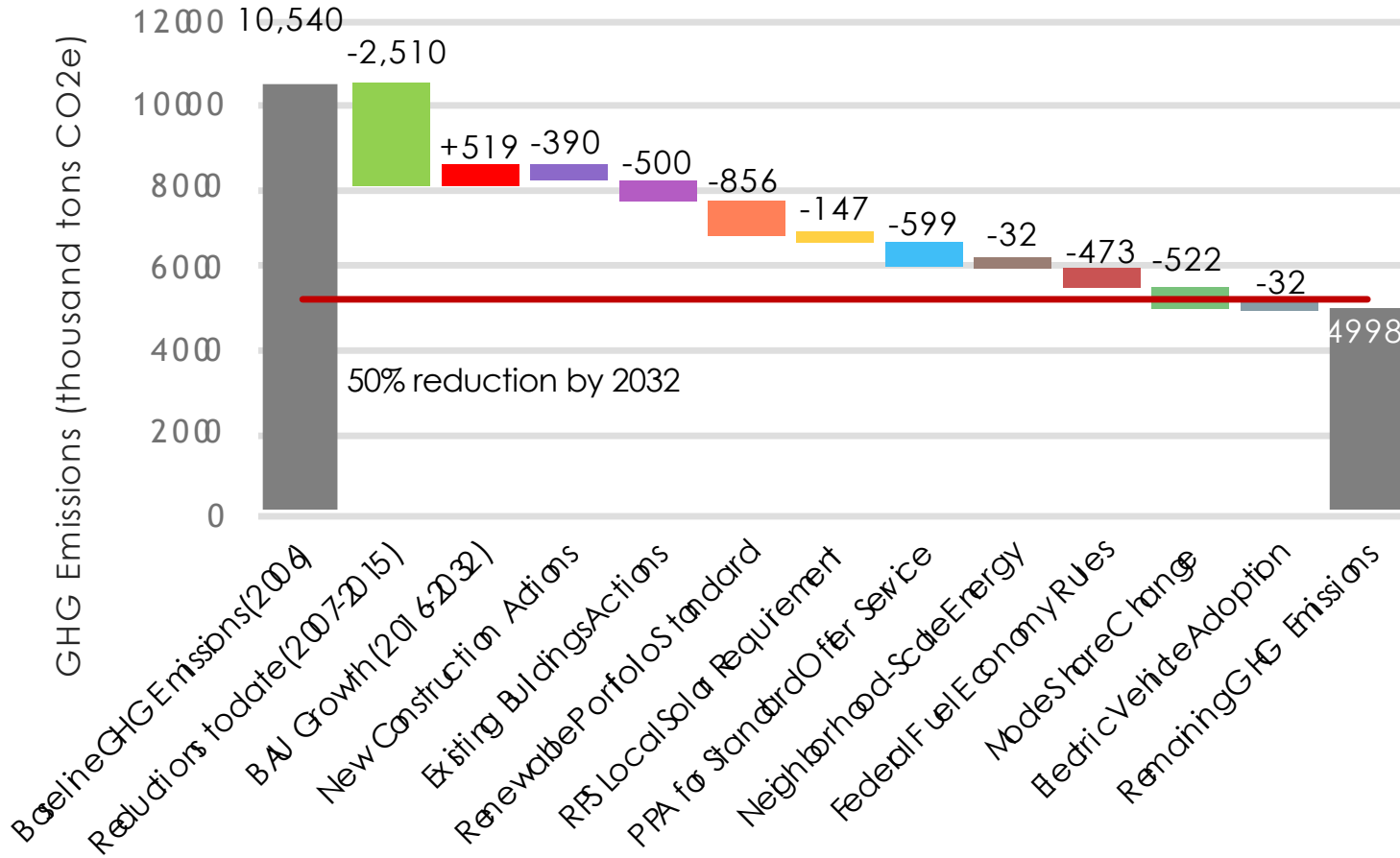
GHG MITIGATION APPROACH



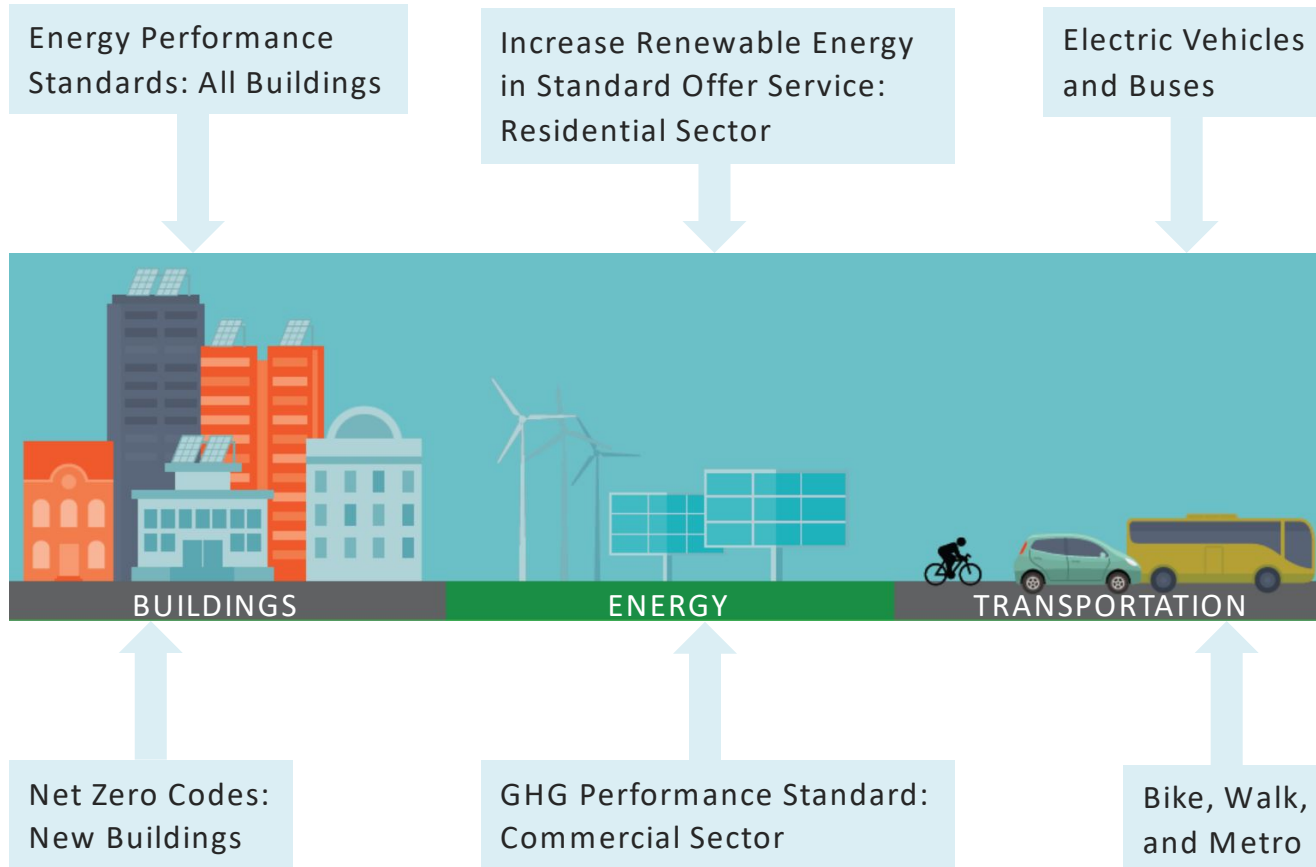
2012-13 GHG Emissions By Sector And Fuel Type
Source: Greenhouse Gas Inventory



GHG MITIGATION APPROACH



DECARBONIZATION ROADMAP



DRAFT CLEAN ENERGY DC 50% GHG CUTS



13.6%



18.6%



14.2%



9.5% from PJM fuel mix change



ENERGY REDUCTION APPROACH

NEW CONSTRUCTION

1. Establish Pathway to Net-Zero Energy Building Codes Between 2020 and 2026
2. Provide Net-Zero Energy Incentive Package



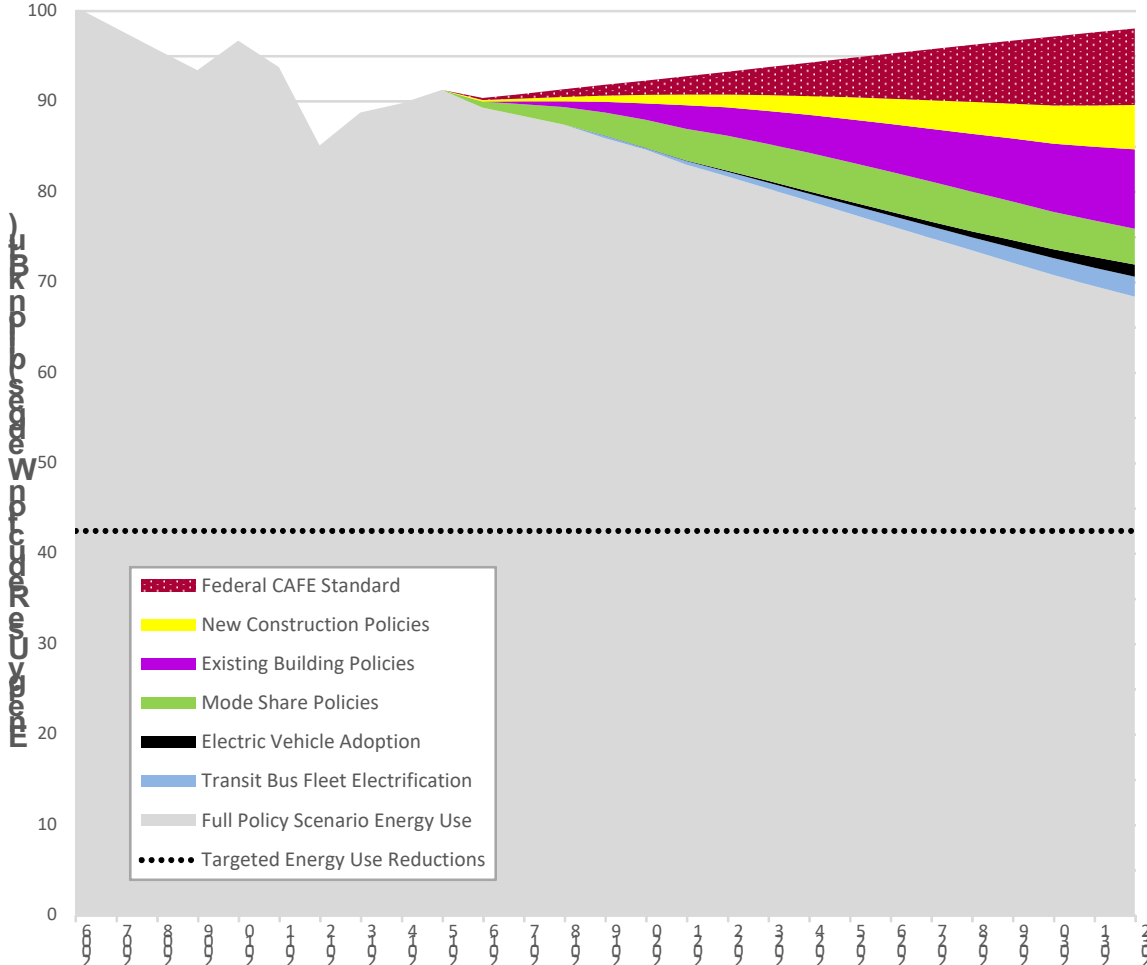
ENERGY REDUCTION APPROACH

EXISTING BUILDINGS

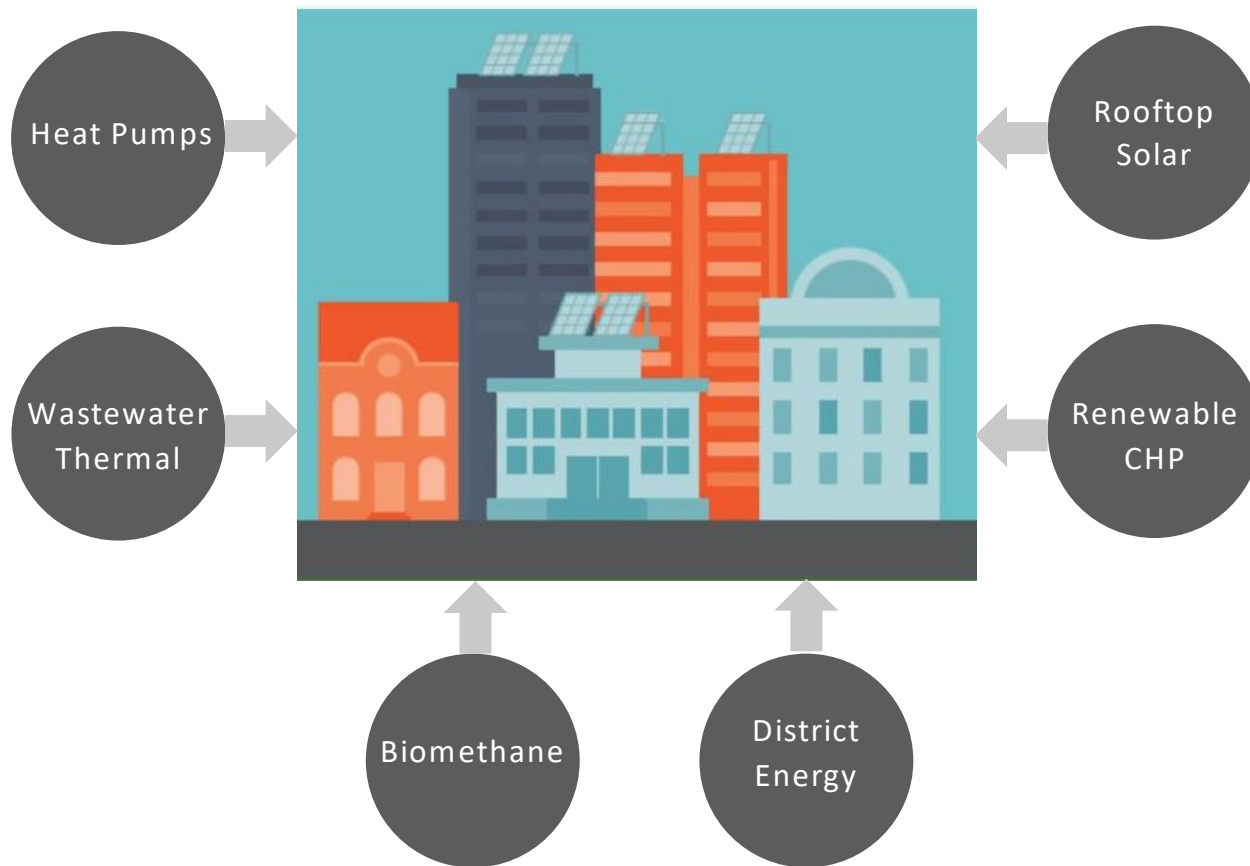
1. Retrofit 20% of All Benchmarked Buildings
2. Building Energy Performance Standard
3. Green Bank Financing
4. Green Leases
5. Virtual Energy Audit



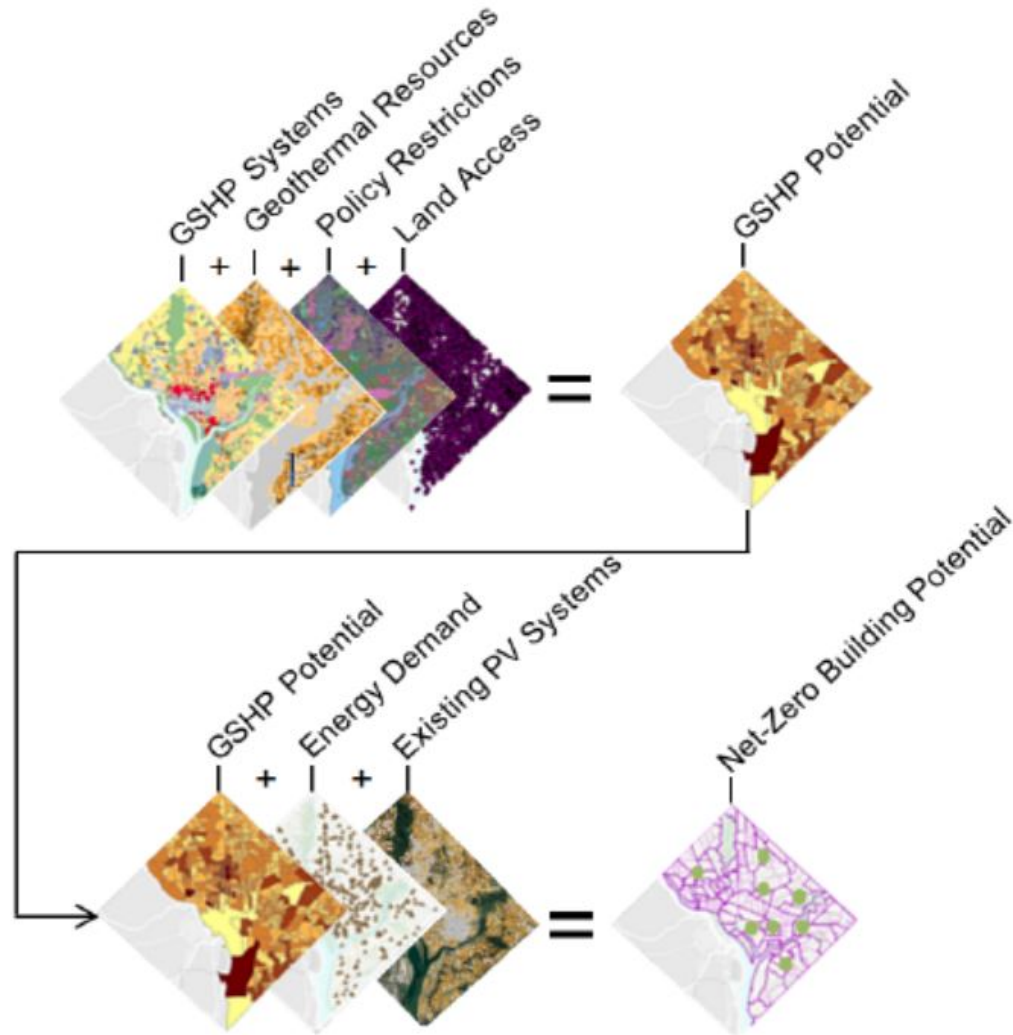
ENERGY REDUCTION APPROACH



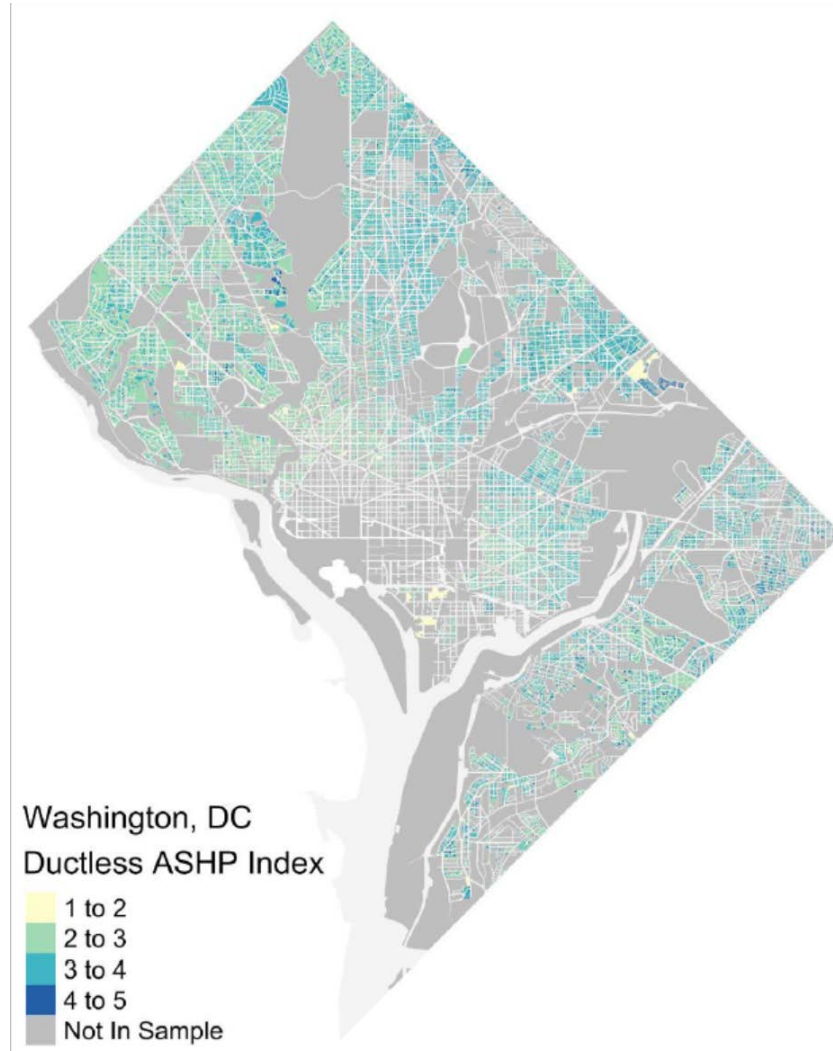
BUILDING DECARBONIZATION



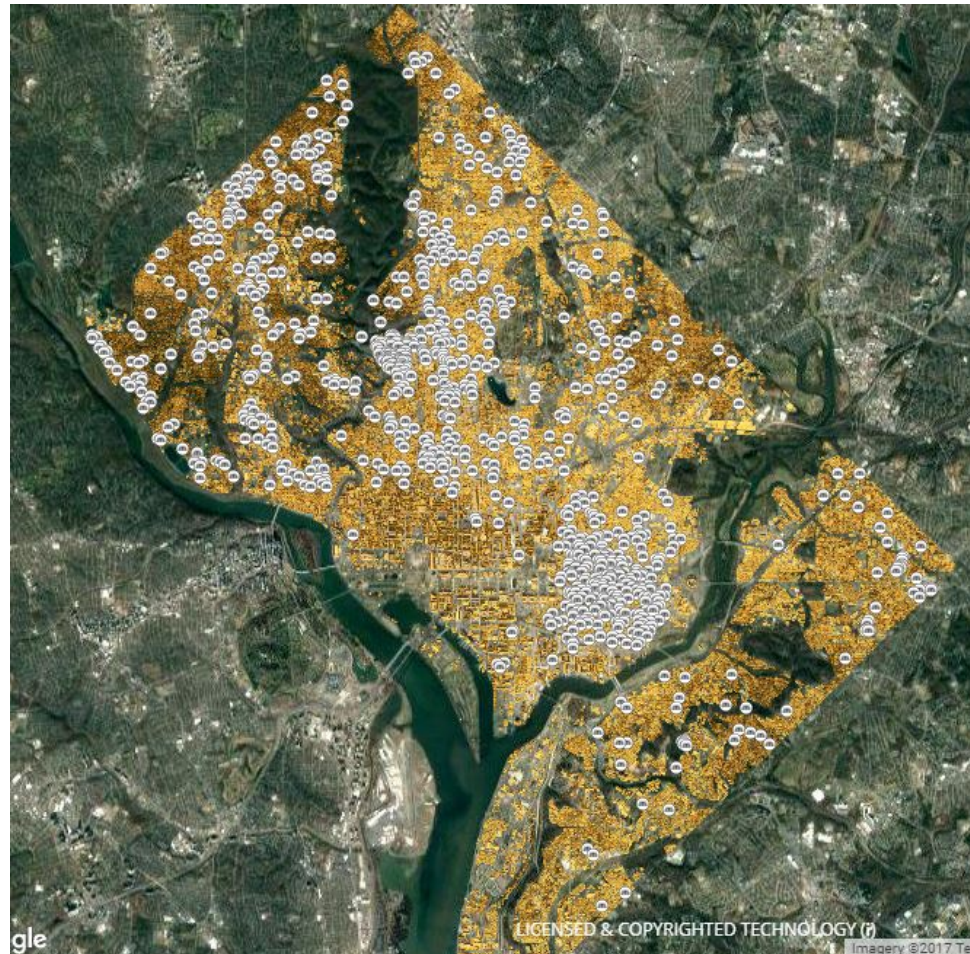
NET ZERO POTENTIAL ANALYSIS



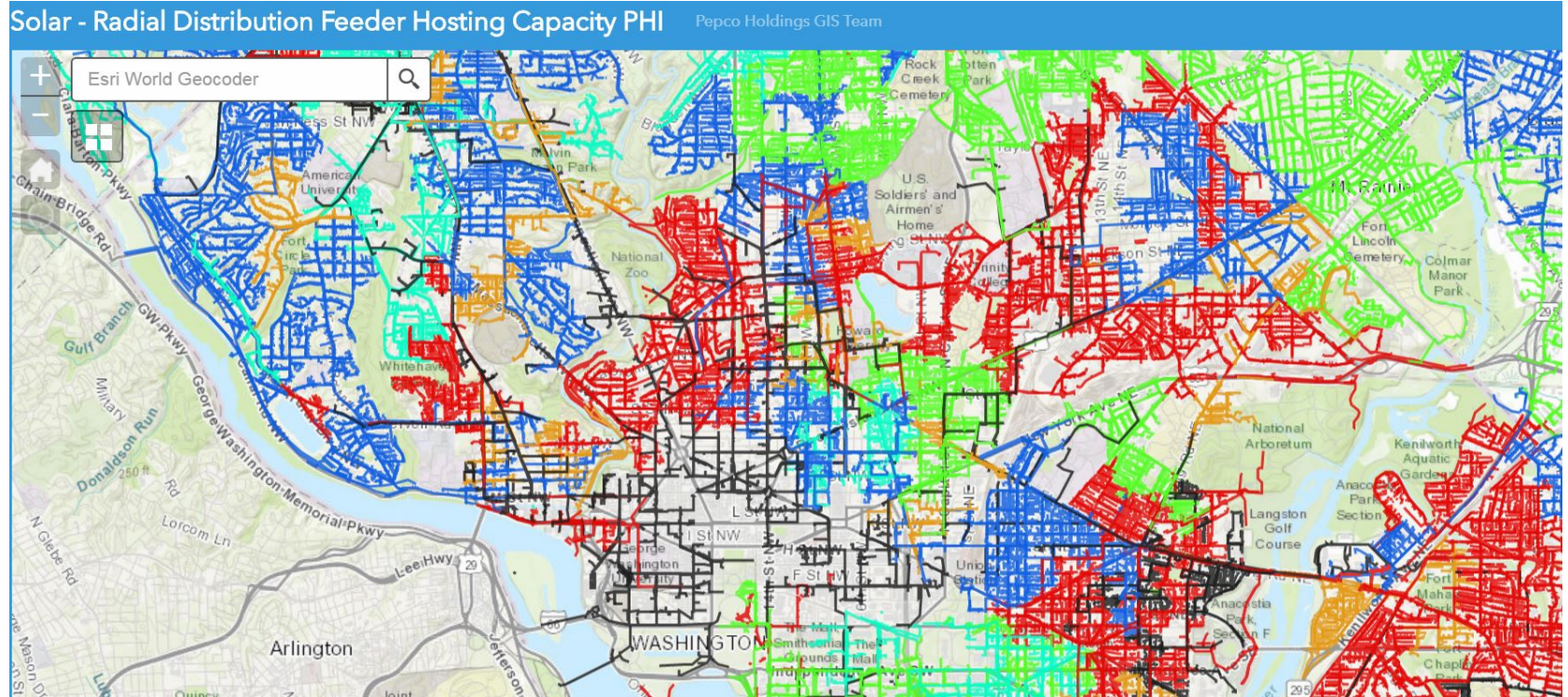
MAPPING ENERGY POTENTIAL



MAPPING ENERGY POTENTIAL



HOSTING CAPACITY ISSUES



- Potential Solutions Using AMI, Advanced Inverters and Battery Storage For Dynamic Feeder Load Management



LOAD GROWTH AT MT. VERNON



Substation A (peak capacity 50 MVA)

Mt. Vernon

Substation B (peak capacity 210 MVA)

Type	Office	Retail	Residential	Hotel
Load Growth	9,400,000 s.f.	600,000 s.f.	6,200 units	1,200 units

Report Year	2015		2017	
Substation	Mt. Vernon	Harvard	Mt. Vernon	Harvard
Cost	\$298.4 M	\$109.3 M	\$150 M	\$241 M
Required Year	June 2020	Dec. 2021	June 2022	2022



SOLUTIONS USING DER

Deferral year	2022	2023	2024
Total MVA deferred	2.2	7.6	13.4
Capacity reached at SW LVAC	$52.2 - 2.2 =$ 50 MVA	$57.6 - 7.6 =$ 50 MVA	$63.4 - 13.4 =$ 50 MVA
Length of deferral	1 year	2 years	Indefinite
Alternative measures	EE or DR	EE + DR	EE, DR, PV, Storage
Cost (EE: lifetime DR: annual)	\$5.6M (EE) or \$1.6 (DR)	\$9.3M	\$32.3M
Net benefit	\$10.6M (EE) or \$7.7M (DR)	\$17.5M	\$45.5M



QUESTIONS?

