District of Columbia's Climate Action Strategy

- The vision to meet the climate challenge, and to create a sustainable, reliable, and affordable energy system that can meet the District's energy needs far into the future.

- This data proposal is to reduce greenhouse gas (GHG) emissions at least 50% below 2006 levels by 2032 while increasing renewable energy and reducing energy consumption.

- Puts D.C. on a path to achieve carbon neutrality by 2050 be engaging the community, across residential, commercial and industrial buildings, power generation and local transportation

Zero-carbon by 2050

Emissions from the Buildings Sector

Residential buildings account for 19% of the total footprint
- The District Government must implement a net-zero-energy building code across both single-family and multi-family structures, that serves to shift buildings away from reliance on fossil-fuels (e.g., natural gas, coal, oil) for heat and hot water. To successfully implement such a code, the District Government will need to provide incentives, education, and training, and demonstrate leadership by requiring very high performance in its own new buildings.

Strategies and emissions reductions in the residential sector:
- RC1 – New Construction Actions can reduce emissions by 4.6%
- RC2 – Existing Building Actions, like retrofits further reduces by 9%

Corporate and industrial facilities account for 57% of emissions will need to retrofitted to reduce energy use. While net-zero energy codes will reduce fossil fuel use in new buildings, the District must retrofit a significant portion of its existing buildings to increase their efficiency and reduce their fossil fuel reliance. Retrofits at this scale require well-financed, data-driven, and carefully targeted programs.

Dynam**hex**

57%* of district-wide emissions come from the power sector:

- Energy supply sector recommendations are based on assumptions about policy-driven changes that shift the electricity supply to renewable sources and increase thermal (heat) and electrical energy that would be supplied from new neighborhood energy systems.

Aggregate emissions due to energy production

The power grid programs, such as more renewable energy can significantly reduce emissions for the district.

- E1 – Renewable Portfolio Standard (RPS) (9.5%)
- E2 – RPS Local Solar Energy Requirement (1.9%)
- E3 – Power Purchasing Agreement for Standard Offer Service (6.6%)
- E4 – Neighborhood-Scale renewable energy (0.6%)

Emissions from Transportation

DC seeks to secure significant transportation-sector GHG reductions, currently at 22%, involving reducing dependence on private petroleum-powered vehicles. Additionally, by shifting to public transit, biking, and walking, and by transitioning to zero-emissions vehicles, DC must implement programs to ensure equitable transportation projects.

This approach mainly seeks to transition passenger and transit vehicles from conventional internal-combustion engine cars and buses to electric models that produce zero tailpipe emissions. Reduction strategies include:

- T1 – Federal CAFE standard (7.1%)
- T2 – Mode Share Change (3.6%)
- T3 – Electric Vehicle Adoption (0.9%)
- T4 – Transit Bus Fleet Electrification (2.6%)

*Power sector emissions are summative with building and other sectors that consume power

Dynam**hex**

Meet goals

Dynamhex allows the district to implement below goals over time, so that the 2032 goals are verifiably met

District of Columbia Emissions

10,319,756

T.1–4

E.1–4

C.1–2

R.1–2

4,694

2006   2032
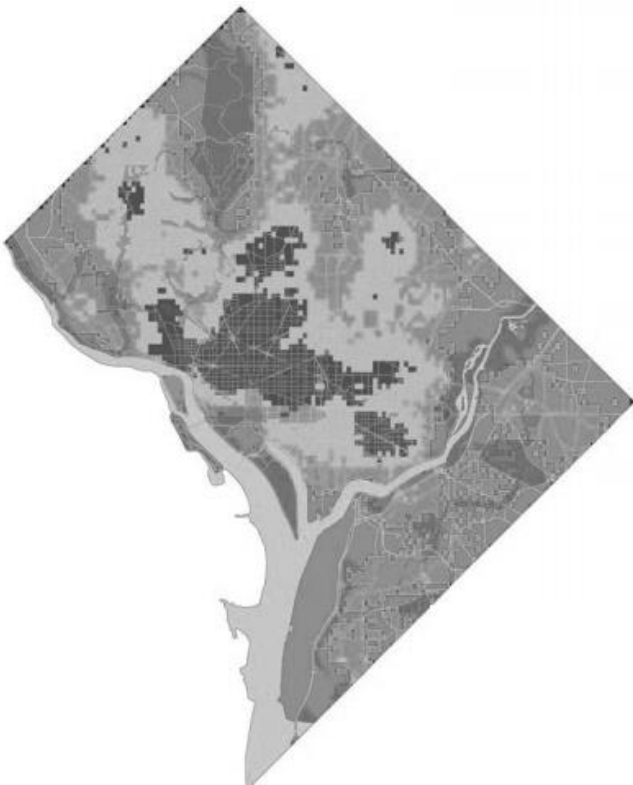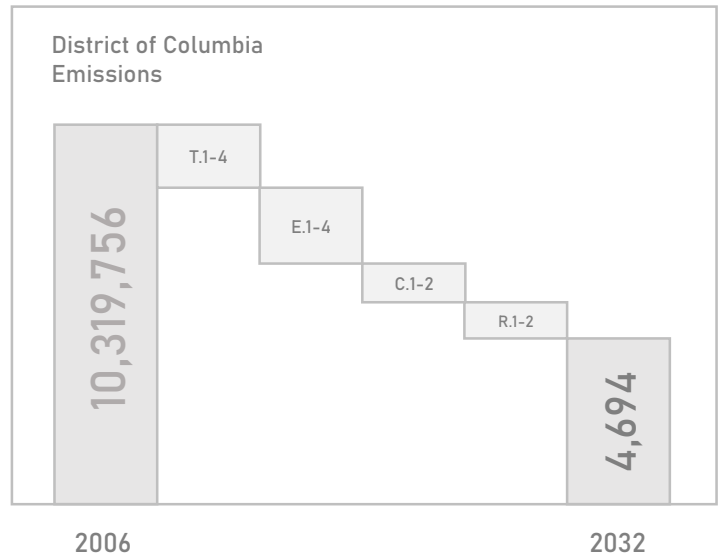
Understand in greater detail, where to deploy above solutions across the region.

Interact with stakeholders to implement solutions within the timeframe