BUILDINGS & ENERGY

Goals

Homes and buildings are highly-efficient, comfortable, resilient, and affordable to operate.
Homes and buildings are healthy and fossil fuel free.

Resilient, Net-Zero Energy New Construction

ACTIONS	POSSIBLE POLICIES
Adopt fossil fuel free net-zero energy construction codes by 2026 for commercial and residential buildings	Lead by example in District Government-funded projects, in advance of code requirement
	Create a suite of funding and financing strategies to make new affordable housing projects net-zero energy in advance of code requirement
	Provide an incentive package that drives market shift toward net-zero energy construction in advance of code requirement
Incorporate resilient design into new construction	Require climate risk assessment and resilient design for District Government-funded projects
	Incentivize and require new construction design to evaluate and account for climate risk
	Maximize and incentivize passive heating and cooling strategies in building design, to reduce reliance on mechanical systems to provide comfortable indoor temperatures
	Develop construction codes that encourage resilient design, including energy storage to provide backup power for critical needs
Support construction of grid-responsive buildings	Allow submetering in all types of buildings
	Provide technical assistance to building owners and operators implementing demand responsive systems
	Establish incentives in partnership with utilities that encourage buildings to become demand-response capable
	Incorporate demand response capability into criteria for evaluating green buildings, such as in grants and awards, and in selecting green building rating standards guiding local construction

Invest in Preserving and Upgrading Existing Buildings

ACTIONS	POSSIBLE POLICIES
Implement and evaluate building energy performance standards to drive continued efficient operations in large buildings	Evaluate program performance and ability of available assistance (technical and financial) to meet evolving needs of regulated buildings
Develop a strategy to achieve deep energy retrofits in single-family homes and small multi-family residential buildings while preserving and expanding the affordability and availability of housing units	Require asset and energy usage disclosure at time-of-sale/time-of-lease
	Establish performance standards for homes, small multifamily buildings, and rental units
	Require energy audit and upgrades at time-of-sale
	Create pay-for-performance incentives or pay-as-you-save financing
	Expand and deepen weatherization assistance and home efficiency support for low- and moderate-income households
	Aggregate projects of similar scales to create time and cost efficiencies
	Partner with manufacturers and the building community to drive consumer education, deliver quality installations, and develop a trained workforce
Expand the range of options available to enable the preservation, rehabilitation, upkeep, and modernization of housing units, without sacrificing the availability or long-term affordability of those units	Maximize the natural opportunities in building life and investment cycles to support deep energy retrofits as part of full-building rehabilitation
	Track neighborhood change to identify areas that are experiencing or likely to experience displacement pressure, and target resources to help residents stay in their communities
Encourage and incentivize energy and water efficiency to improve building performance and reduce utility costs	Support appliance standards that drive energy- and water-efficiency by implementing local standards and advocating for continued improvement of federal regulations
	Craft incentives that encourage and enable installing efficient equipment and maximizing its performance in daily operations

Phase Out Fossil Fuels

ACTIONS	POSSIBLE POLICIES
Develop a plan to phase-out fossil fuels, leading with an integrated suite of incentives and programs to support 100% fossil fuel free buildings, starting with heat and hot water systems	Realign and expand incentives to encourage efficient fossil fuel free end-of-life replacement heat and hot water systems before 2035
	Partner with manufacturers and the building community to support high-performance installations and maintenance
	Incentivize coupling solar, weatherization, and other efficiency measures with systems replacements
	Aggregate similar projects to build workforce and cost efficiencies (e.g., slate of fuel oil to heat pump conversion projects)
	Develop a plan for integrating fuel transition into emergency replacement programs

Zero Carbon & Sustainable Buildings

ACTIONS	POSSIBLE POLICIES
Develop a suite of refrigerant management strategies and support a market shift toward green refrigerants	Engage with federal, state, and regional partners to transition away from carbon-intensive refrigerants like HFCs and encourage manufacturers to expedite phasing-in alternatives
	Require disclosure of refrigerants used in utility-scale projects
	Partner with building community to understand refrigerants in use, and strategies to prevent and mitigate leakage
	Support ongoing maintenance and good state of repair with programs to educate and train building operators and HVAC professionals on best practices
	Develop construction codes that encourage using green and efficient refrigerants
	Incorporate use of green refrigerants into criteria for evaluating green buildings, such as in grants and awards, and in selecting green building rating standards guiding local construction
Work with the building community to establish a baseline and best practices for reducing embodied carbon in typical building and infrastructure projects	Phase in lifecycle carbon analysis for construction projects, starting with District Government-funded projects and expanding to other large-scale projects
	Partner with building community to collect data on current practices and materials used, by project type
	Consider requiring projects to measure and disclose their embodied carbon footprint
	Encourage and incentivize rehabilitation and adaptive reuse of existing homes and buildings as strategies to reduce lifecycle carbon impacts
	Develop construction codes and related resources to reward low-embodied carbon, circular design
	Collaborate and coordinate with local and federal partners to align goals and support building the technical expertise and market demand for services and materials
Promote health and sustainability through building design and operations	Encourage strategies that incorporate indoor air quality improvements alongside energy efficiency projects and systems replacements
	Encourage buildings to incorporate zero waste design principles and best practices to support material separation in commercial and institutional buildings

MILESTONES & TARGETS

1. Net-zero, fossil fuel free construction codes adopted by 2026
2. Climate Ready new construction by 2032
3. By 2035, no fossil fuel heat or hot water appliances installed
4. Limit energy burden to 3% for low- to moderate-income households and establish a target for utility burden (energy + water) by 2024
5. By 2045, the average home should be 60% more efficient than today, and buildings should be 70% more efficient

INDICATORS

1. Energy use intensity (EUI) by building type
2. Annual consumption of on-site fossil fuel (gas, fuel oil), residential v. non-residential
3. Utility cost burden: % of income spent on energy + water, by income, race, age, building age

Goal | **Energy is local, clean, renewable, and resilient in the face of extreme weather.**

Zero Carbon Heating & Cooling

ACTIONS	POSSIBLE POLICIES
Increase deployment of non-fossil fuel technologies to heat and cool spaces, such as geoexchange, wastewater heat recovery, and emerging technologies	Identify and address barriers to current projects (e.g., permitting, local expertise)
	Lead by example in District Government projects, building examples of breakthrough design and performance
	Craft incentives to encourage integrating these technologies into a range of projects.
Support the transition to zero-carbon energy including for District energy systems	Explore governance and regulatory reform to support the transition to a zero-carbon future
	Partner with current system owners to identify upcoming investment cycles and opportunities to shift to technologies compatible with zero-carbon thermal sources
	Require new systems to use technologies compatible with zero-carbon thermal sources
Implement neighborhood-scale energy plans	Pilot renewable energy neighborhoods and innovation districts that encourage innovative energy management strategies and cross-sector partnerships
	Facilitate local multi-customer energy systems that provide neighborhood-scale resilient, clean energy, like renewable microgrids, by developing a clear regulatory framework to encourage, interconnect, and incorporate these systems into grid planning and operations
	Assess neighborhood-scale methane leaks and develop a suite of solutions, including non-pipe alternatives, for resolving non-hazardous leaks
Develop a system to recover food waste and generate carbon neutral biogas that can be used in high-heat applications and processes	Establish an organics recovery program for commercial and institutional sources as a pipeline for a carbon neutral feedstock
	Identify infrastructure and other needs to carbon neutral biogas generation and develop a framework for assessing its most suitable end-uses

Resilient Clean Energy

ACTIONS	POSSIBLE POLICIES
Develop and implement a strategic energy storage technology deployment plan	Adopt a framework for recognizing and valuing customer-sited distributed energy resources, and a process for embedding those outputs into grid planning and operations
	Establish energy storage incentives for current and emerging technologies
Outline a pathway to carbon-free emergency and back-up power by 2045	Develop construction codes that encourage resilient design, including energy storage
	Implement neighborhood-scale resilience solutions to develop resilient districts and community resilience hubs
	Prioritize distributed energy resources for locations that can provide backup power to critical facilities
	Consider requiring new back-up systems to pair and prioritize renewable energy generation and storage alongside any fossil fuel generator, such as a hybrid system with solar, battery storage, and a diesel generator
	Pilot emerging technologies that can provide zero-carbon back-up power

Greening the Regional Grid

ACTIONS	POSSIBLE POLICIES
Use the District's purchasing power to drive development of additional renewable generation and supply of zero-carbon electricity	Provide carbon-free electricity to standard offer electricity customers by default
	Enact legislation that sets a maximum greenhouse gas intensity for electricity supplied to the District
	Facilitate energy aggregation and support Power Purchase Agreements (PPAs)

MILESTONES & TARGETS

1. 50% of energy consumed comes from clean, renewable sources
2. Establish a target for reducing peak demand

INDICATORS

1. Annual % of energy consumed from renewable sources
2. Annual peak demand (MW)
3. Installed storage capacity (MW)
4. Grid emissions factor

TRANSPORTATION & LAND USE

Goal | **Quality housing in all eight wards provides housing security for current and future residents in vibrant, accessible neighborhoods.**

Encourage Housing Citywide

ACTIONS	POSSIBLE POLICIES
Encourage housing throughout the city by relaxing height and density restrictions	Reduce barriers to allowing denser, more efficient buildings, particularly near transit and commercial corridors
	Support existing neighborhoods while considering strategic rezoning of areas currently developed with low-density housing (e.g., single-family homes, duplexes, rowhouses) for small apartment buildings
	Create housing options near high-capacity transit corridors that serve a range of household sizes and incomes, including affordable options to rent and own

Bring Housing, Jobs & Daily Needs Closer Together

ACTIONS	POSSIBLE POLICIES
Encourage and incentivize transit-oriented development	Continue to offer and expand incentives for production of housing to rent and own, particularly affordable housing, near transit
Reduce travel times by improving and increasing transportation choices	Identify transit deserts and develop specific steps to improve resident access to jobs
	Implement a transit priority network to improve bus reliability and travel speeds
	Pilot programs that encourage transit ridership by reducing cost barriers, such as free and reduced fares
	Continue to develop and refine services that provide last-mile connections
	Integrate and expand the bike and pedestrian networks to ensure safe, connected, and more equitable infrastructure for all users
	Implement pricing and other tools to support efficient movement and roadway management

MILESTONES & TARGETS

1. 36,000 new housing units by 2025, including 12,000 affordable units
2. By 2050, no less than 15% of housing is affordable, by planning area

INDICATORS

1. Housing + Transportation cost burden (% income spent on housing + transportation), by income, race, neighborhood
2. # of total housing units, and # of dedicated affordable units (by income)

Goal | **Residents' daily needs are a safe, comfortable, convenient walk, ride, or roll from their front door.**

Prioritize Active & Public Transportation

ACTIONS	POSSIBLE POLICIES
Support accessible, walkable neighborhoods and connected bike networks	Integrate and expand bike and pedestrian networks to ensure safe, connected, and more equitable infrastructure for all users
	Design infrastructure to improve safety, focusing on the most vulnerable roadway users
Improve transit coverage, reliability, and speed	Implement a transit priority network to improve bus speeds and reliability
	Identify transit deserts and develop specific steps to improve resident access to jobs
	Expand off-peak and late-night services

MILESTONES & TARGETS

1. 75% of commute trips made without a car by 2032
2. Establish a target to reduce vehicle miles traveled in the District

INDICATORS

1. Annual modal split : % walking, biking, transit, passenger vehicles
2. Annual vehicle miles traveled (VMT) total, and per capita
3. % of population with proximity to high-quality transit, by neighborhood
4. Time-in-transit/commute length, by race, income, neighborhood

Goal | **Zero emission buses and vehicles move more people and freight with less noise and pollution.**

Phase Out Fossil Fuels, Prioritizing Buses and Trucks

Implement the Clean Vehicle Transition plan to electrify vehicles, leading with District Government and large fleets and prioritizing communities overburdened by air pollution	Lead by example with District Government fleets, prioritizing transit vehicles, school buses, and vehicles serving communities overburdened by air pollution
	Align resources and incentives to support electrification, prioritizing vehicles with high passenger capacity and higher tailpipe emissions
	Pilot new technologies for zero emission medium- to heavy-duty vehicles for a range of vehicle types
	Support programs that make the benefits of electric vehicles accessible to all residents, such that vehicle ownership is not a requirement (e.g., zero emission car-sharing or other programs)
Ensure charging infrastructure is available and adaptable to meet current and future charging needs and supports our overall goal of enabling most trips without use of a car	Adopt the transportation electrification roadmap and establish a charging infrastructure target necessary to meet the zero-emission transition targets
	Encourage and incentivize deployment of an optimally designed charging infrastructure network that serves a variety of users, supports the District's modal priorities, and is designed for flexibility
	Leverage the growing network of electric vehicles and chargers to support overall grid efficiency and reliability goals, using dynamic pricing and other pricing signals to encourage off-peak charging and vehicle-to-grid capabilities
Exercise regional leadership to drive electrification of buses and other medium- to heavy-duty vehicles	Coordinate with regional and federal partners to pursue common and interoperable charging infrastructure, to provide a seamless network that supports regional service
	Ensure that transportation infrastructure investments for projects located in the District are compatible with the city's climate and vehicle transition goals
	Implement a medium- to heavy-duty zero emission vehicle (MHDV ZEV) action plan, in line with the multi-state effort to accelerate electrification
Pursue a parallel transition to eliminate transportation fossil fuels for off-road uses	Work with surrounding jurisdictions, regional, and federal partners to advance emissions reductions for moving people and freight by rail and water
	Evaluate and adopt strategies to reduce emissions from construction sites and heavy machinery, including implementing emerging technologies and design practices
	Implement gas leaf blower ban and pursue electrification of other fossil fuel-powered equipment, such as lawn and landscaping machinery

MILESTONES & TARGETS

1. 100% of public buses will be zero-emission by 2045
2. New medium- to heavy-duty vehicles registered will be 100% zero emission by 2050, with 30% of new medium- to heavy-duty vehicles being zero emission by 2030
3. Reduce greenhouse gas emissions from transportation 60% by 2032

INDICATORS

1. % of public fleet that is zero emission (by vehicle class: light-duty, buses, medium- to heavy-duty)
2. % EVs registered by vehicle class in the District annually
3. % VMT traveled by ZEVs annually
4. Annual GHG emissions from transportation (MTCO2e and % of citywide)

WASTE & EMBODIED CARBON

Goal | **A circular economy supports a zero waste DC and supports low-carbon choices.**

Reduce First to Achieve Zero Waste

ACTIONS	POSSIBLE POLICIES
Develop and implement a comprehensive Zero Waste plan that achieves source reduction goals, and encourages recycling and reuse	Provide targeted recommendations and technical assistance to reduce waste generated, focusing on the commercial sector as the largest generator, and on carbon-rich waste streams, such as paper, food, and other organics
	Lead by example in District Government operations by piloting strategies to reduce waste in offices, schools, and other facilities
	Expand current fees and bans to reduce problem products and packaging that are hard to reuse, recycle, or compost
	Extend producer responsibility for additional product streams, to encourage material recovery and reuse
	Provide community-centered education and infrastructure to encourage household waste reduction
Establish a food waste strategy that prioritizes food rescue, and provides a clear pipeline to recover remaining waste, keeping it out of landfills and incinerators	Incentivize, increase convenience, and reduce perceived risk of food donations from businesses, institutions, and schools to promote food rescue
	Align policies and incentives to target commercial and institutional food waste generators to collect, separate, and divert organics into high-quality feedstocks for next-level uses, including composting and local biogas generation
	Expand partnerships and services that enable convenient and accessible residential food waste recovery, such as through year-round neighborhood drop-offs, expanded community and home composting, curbside collection and more

Incubate a Local Circular Economy

ACTIONS	POSSIBLE POLICIES
Work with businesses, community organizations, and surrounding jurisdictions to reuse, repair and repurpose more goods, to capture value before disposal	Collaborate with the building community to identify policies, programs, and opportunities to support tracking commercial construction waste and achieving the goal of reusing or recycling 50% by 2032
	Support opportunities for local business development that encourage and enable product reuse and repair
	Facilitate separation of waste into commodity streams to support a local circular economy

Assess and Reduce Embodied Carbon

ACTIONS	POSSIBLE POLICIES
Establish a target for reducing the District's consumption-based carbon footprint, and a pathway to achieve that goal	Conduct a baseline assessment
	Adopt interim reduction targets based on best practices, by sector and for government procurement
	Develop recommendations, resources, and requirements to achieve these goals in District Government operations
	Encourage business and institutional engagement by providing ongoing best practices and technical resources
Lead by example in District Government operations by purchasing low-carbon materials and goods	Adopt low-carbon procurement standards for commonly procured materials that are carbon-intensive, such as concrete and steel
	Require procurement of environmentally preferred products and services across all categories, integrating lifecycle carbon into the guiding specifications
	Develop procurement standards and related resources that reward products and services that provide additional benefits in line with the District's sustainability and equity goals, such as growing the local green economy, improving the quality and nutrition of institutional food, and expanding socially responsible businesses (pay living wages, provide benefits, etc.)

MILESTONES & TARGETS

1. 15% reduction in per capita waste generated by 2032
2. 80% waste diversion by 2032
3. 50% Commercial construction waste reused or recycled by 2032
4. By 2024, conduct a citywide consumption-based inventory
5. By 2024, establish embodied carbon reduction goal

INDICATORS

1. Annual tons MSW generated per capita
2. Citywide waste diversion rate
3. Waste characterization over time, including % organics
4. % construction and demolition waste diverted
5. Baseline consumption-based inventory footprint
6. Reduction in citywide carbon footprint over time, based on procurement data and policy requirements
7. % of consumption-based emissions associated with policies to target low-carbon procurement for District Government