DRAFT SUSTAINABLE DC 2.0 PLAN

AUGUST 2018

INTRODUCTION

What is Sustainability?

You've probably heard of sustainable fashion, sustainable food, and sustainable transportation. But, what does the word sustainable mean for a city? We like to think of it as **balancing the demands of economic growth, environmental protection, and social equity**. Going further, making the District sustainable only works if our most vulnerable residents are included in the process and benefit from the transformation.

In 2012, the District Government collaborated with residents across the city to develop Sustainable DC, a 20-year sustainability plan to make DC the healthiest, greenest, most livable city in the country. With 31 targets, 32 goals, and 143 actions, the original Sustainable DC plan set the District on an ambitious track through 2032. More than 25 District Government agencies are responsible for implementing the plan. Each action in the plan is assigned to an agency and each year, we release a progress report to track what progress has been made. Similar to a report card, this annual report also grades the progress made toward meeting each action, and serves as a public accountability tool. You can view past progress reports at www.sustainabledc.org/in-dc/planprogress/

After five years of implementation, 71 percent of the Sustainable DC plan's actions are underway and another 27 percent are complete. A few big achievements from the past five years include: 1.) engagement with more than 20,000 residents on sustainability; 2.) a 29% decrease in greenhouse gas emissions (since 2006); and 3.) 58% of commuter trips now being made by bike, on foot, or on public transit.

What's the impact of the Sustainable DC plan?

- Since Sustainable DC was developed in 2012, the plan has made real impacts on the District.
- **New laws:** Since the plan took effect, two major legislative packages directly supporting Sustainable DC have been signed into law. These legislative packages remove obstacles and provide incentives to further the goals and actions in Sustainable DC. The District's environmental literacy program, transit benefits, relaxed beekeeping regulations, and the foam ban are all products of these legislative packages. Several other major pieces of legislation have also been passed in support of the plan on topics ranging from

healthy food access to renewable energy standards.

- **Innovation Projects:** After the release of Sustainable DC, the District awarded $4.5 million in Innovation Funding to District agencies to pilot new projects, engaging the District's key institutions – businesses, schools and universities, international institutions, and healthcare facilities – and its residents throughout the process. The Innovation Fund projects include an aquaponics farm at the University of District of Columbia, kinetic pavers that generate energy when walking atop them, and anti-idling devices that have been installed in police cars.

- **Sector Pledges:** Sustainable DC developed strategic partnerships with sectors with large sustainability footprints: universities, embassies, businesses, and healthcare providers. Sustainable DC launched three innovative pledges to increase the level of sustainability within these sectors. As a result of these partnerships, more than 100 embassies, 21 healthcare institutions, dozens of businesses, and all eight universities in the District have pledged to take steps to advance sustainability. The pledge focuses on areas like healthy foods, energy reduction, stormwater management, and waste diversion. The signatories of the pledges meet to share ideas and resources. Sustainable DC staff, in turn, provides technical assistance and helps to identify potential funding opportunities for sustainability initiatives.

- **Ambassadors & Volunteers:** In the spring of 2013, Sustainable DC piloted an ambassador program by training 12 volunteers to talk to their friends and neighbors about the benefits of sustainability. Now in year six, we have trained more than 250 residents as Ambassadors. In 2016, Sustainable DC also launched a volunteer program to connect residents to hands-on volunteer opportunities hosted by non-profit partners across the District.

Sustainable DC 2.0

A lot has changed in the District since Sustainable DC was first developed. To reflect changes in city policies, programs, and technologies, DOEE launched a collaborative community engagement process to shape the District's plan update – Sustainable DC 2.0. The Sustainable DC 2.0 planning process began in April 2017 and has involved more than 4,000 residents—including 400 working group participants—at 50 public events.

What started as a small update has really evolved into a pretty large undertaking and update! The Sustainable DC 2.0 planning timeframe helps tell the story of how the process has unfolded so far.

Phase I: Intensive community engagement (spring – summer 2017) - COMPLETE

- 6 focus groups
- 3,900 residents reached through phone, online, and in-person citywide surveys
- 18 pop-up conversations across all eight wards

Phase II: Formal planning (fall 2017 – spring 2018) - COMPLETE

- 7 topic-specific working groups developed recommendations
- 3 citywide meetings to better understand community priorities

Phase III: Plan release (summer – winter 2018) - UNDERWAY

- June: release draft framework
- August: release draft plan
- December release final plan

Priorities

- Throughout this process, we've talked to a lot of residents, environmental stakeholders, and sister agency partners. What has emerged from these conversations is a preliminary set of priorities for what should be incorporated into Sustainable DC 2.0. While developing this draft plan, we've worked to incorporate the following six priorities.
- Access to healthy foods
- Recycling and composting
- Affordable housing
- Clean, litter-free streets
- Accessible and walkable neighborhoods
- Green space and trees

While reading this draft plan, take a look to see if your priorities (which may not be included in the list above) are included in this draft. If they're not, let us know. We want to ensure that each and every resident sees themselves reflected in this plan update.

How this plan fits in with other plans

DC is a city that likes to plan. Since the release of Sustainable DC in 2012, over 8 plans have been developed. We like to think of Sustainable DC as the umbrella to these plans. While Sustainable DC touches on all the topics in the plans below, including climate, transportation, and health, each of these individual plans takes a much deeper dive into the topics themselves. Sustainable DC is the framework to support these plans.

- MoveDC
- Climate Ready DC
- Clean Energy DC
- State Wildlife Action Plan
- Healthy People 2020
- Vision Zero
- Age Friendly DC
- DC's Economic Strategy

The District is also in the process of updating the Comprehensive Plan. This plan, dubbed the "plan of all plans," will guide future growth and development patterns in the city. We are working closely to ensure Sustainable DC 2.0 is aligned and fits with the larger Comprehensive Plan framework and we are excited that both plans are

being updated at the same time which will aid in the alignment process.

What's covered in Sustainable DC 2.0?

The draft Sustainable DC 2.0 plan is divided into 13 topic areas. Below is a summary of each topic and what it covers. Read through the entire draft or just pick and choose the areas that interest you the most.

1. *Governance*
    - Ensuing plan implementation and accountability
2. *Equity*
    - Improving equity in District Government planning, starting with Sustainable DC plan implementation
3. *Built Environment*
    - Equitably accommodating population growth
    - Strengthening existing neighborhoods
    - Making existing buildings more sustainable
    - Making new buildings more sustainable
4. *Climate*
    - Reducing greenhouse gas emissions
    - Making the city resilient to climate change
5. *Energy*
    - Improving energy efficiency
    - Increasing renewable energy
    - Modernizing energy infrastructure
6. *Economy*
    - Growing green jobs and economy
    - Training residents for green jobs
7. *Education*
    - Educating students about environment
    - Educating community about sustainability
8. *Food*
    - Expanding urban agriculture
    - Increasing access to healthy food
    - Growing the food economy
    - Reducing wasted food
9. *Health*
    - Enabling active lifestyles for residents

- Increasing healthy places for residents
- Connecting residents to resources to increase health

10. *Nature*
    - Helping aquatic wildlife and habitat
    - Helping land wildlife and habitat
    - Improving residents' access to nature
11. *Transportation*
    - Increasing transit use
    - Expanding the number of bikers and walkers
    - Reducing dependency on single occupant vehicles
    - Reducing emissions from transportation
12. *Waste*
    - Reducing the amount of waste created
    - Increasing reuse and recovery of materials
    - Increasing recycling and composting
13. *Water*
    - Making waterways fishable and swimmable
    - Reducing amount of stormwater runoff
    - Reducing amount of potable water used
    - Ensuring safe drinking water

GOVERNANCE

Implementing Sustainable DC 2.0's 169 actions and 34 targets will require commitment and perseverance from District Government. However, However, HOW the Sustainable DC 2.0 plan is implemented is equally important to making sure we are making good progress.

The District Government has assigned a core team of four employees who coordinate the work of more 25 agencies implementing the plan. For the past five years, District Government has released a report detailing the progress made in implementation of each of the original Sustainable DC's 143 actions and 32 goals. The Sustainable DC Ambassador and Sustainable DC Volunteer programs were launched to help residents learn more about sustainability and connect them to hands-on sustainability programs. Some of the largest land and building owners were organized into sector pledges—universities, international institutions, healthcare providers, and businesses—to increase their sustainability. Still, much more work needs to be done to ensure that the next 15 years of implementation continue with a renewed focus on Sustainable DC's role in making the District of Columbia more equitable and relevant to the entire community.

Goal 1: Expand District Government Leadership to Implement the Sustainable DC Plan.

Target: Implement 100% of the Sustainable DC actions by 2032.

GV1.1: Dedicate District Government staff and funding to implement the Sustainable DC plan, track progress, and make results publicly available.

District Government has invested in sustainability with employees focusing on sustainability in several agencies and a core Sustainable DC team of four fulltime people at DOEE and OP. The core Sustainable DC team has developed a set of 11 primary indicators (1 per plan section) and five secondary indicators that it reports on in the annual progress report. An online dashboard will be developed and published by 2020.

Timeframe: Ongoing annually

Lead: DOEE, OP

GV1.2: Strengthen the existing process to collect, analyze, and report data to ensure progress towards goals and targets by prescribed dates.

Each year, the Sustainable DC team will coordinate with each of the agencies responsible for implementing the Sustainable DC Plan to get a status update on all of the actions. Using this information, the team will continue to put out an easy-to-read annual progress report every Earth Day consisting of updates on each plan section, an implementation rating for each action, and a detailed status update for each action. As an additional measurement tool, the team will also benchmark the District's sustainability annually against other U.S. cities using the STAR Communities Rating System Leading Indicators Program.

Timeframe: Ongoing annually

Lead: DOEE, OP

GV1.3: Identify existing laws, regulations, and policies that conflict with sustainability goals and areas where new authority is required.

As a result of past analysis of existing laws, regulations, and policies, the District passed two Sustainable DC omnibus packages of legislation in 2012 and 2014. The Sustainable DC team has since done further analysis, which it will continue to do every other year to put forth policy suggestions to remove barriers to, and enable new innovations in, sustainability.

Timeframe: Ongoing bi-annually

Lead: DOEE, OP

GV1.4: Expand sector-based sustainability partnerships and pledges to promote adoption of sustainable practices.

The Sustainable DC team has facilitated four sustainability pledges (universities, international institutions, businesses, and healthcare providers) to discuss best practices in sustainability, collect and analyze data, and connect participants to resources like technical assistance and financial assistance. The District will continue to facilitate these pledges as well as launch new pledges for sectors with strong opportunity for increased sustainability. New sectors might include businesses and faith-based organizations.

Timeframe: Ongoing

Lead: DOEE, OP

GV1.5: Increase federal and regional collaboration by partnering with the federal government and regional council of governments.

About 29% of the District is controlled by the federal government and 55 buildings in the District are managed directly by the U.S. General Services Administration, making the federal government a critical partner on sustainability. District Government will work closely with the federal National Capital Planning Commission, National

Park Service, and U.S. General Services Administration to maximize opportunities for sustainability in federal buildings and land. On the flip side, sustainability issues like transportation, water, and air are regional issues at their core. By continuing to work with the 24 jurisdictions that are part of the Metropolitan Washington Council of Governments, District Government will be able to tackle these difficult challenges.

Timeframe: Ongoing annually

Lead: DOEE, OP

Partners: EOM, DMPED, DCRA, DDOT

GV1.6: Designate a sustainability lead in every District Government agency to coordinate efforts across government.

With over 25 District Government agencies involved in the implementation of Sustainable DC and enormous opportunity for District Government to lead by example, having a designated point of contact at every District Government agency is critical. Designated agency sustainability leads assist in plan implementation and reporting, help identify and reduce barriers for increased sustainability in their agency, and provide guidance on new sustainability programs. DOEE will also convene agency sustainability leads quarterly to update agencies on plan implementation, train them on new sustainability programs, share opportunities for funding and additional training, and to better understand agency challenges and priorities related to sustainability.

Timeframe: Short term

Lead: DOEE, OP

GV1.7: Develop a citywide strategy for greening internal District Government operations to save money and improve environmental performance.

With 32,000 employees and over 400 managed buildings, District Government has an important opportunity—and responsibility—to operate as sustainably as possible. Based on greatest need, opportunity, and best practice from other city governments, District Government will develop a Greening District Government strategy to increase its own sustainability. The strategy will analyze opportunities in energy and water efficiency, renewable energy, sustainable purchasing, green fleet, waste management, biophilia, landscaping, and broader interagency organizational change.

EQUITY

Racial equity is an integral element of a truly sustainable city. Communities of color are more prone to experience deep and persistent gaps in income, health, employment, and education. In many places, the gaps are physically obvious. In wealthy areas, there is better access to well-maintained green space, high quality schools, and walkable commercial areas. Less affluent areas often experience more crime, higher mortality rates, lower income, and fewer amenities. In an equitable society, race wouldn't be a factor in one's quality of housing, employment opportunities, or earning potential. While this is not yet our reality, this is what it means to be a sustainable city. As we strive to create a sustainable DC, we are also faced with a more immediate challenge: ensuring all residents equally enjoy the benefits of a healthier, greener, more livable city. For many residents, sustainability means struggling to afford housing in a rapidly changing city. To make sustainability relevant to all residents, it must be part of the struggle for racial equity in our city. As a short term goal, the Equity section in the Sustainable DC plan calls for the creation of tools that will help representatives from 26 District Government agencies create holistic solutions to problems faced by District residents through the lens of sustainability. The long-term vision is for agencies to equitably distribute their resources to residents through the adoption of policies that don't create disproportionate impacts. While equity includes gender, age, ethnicity, social class, language, sexual preference, mental and physical ability, it must start with race. While the US population shifts and racial minorities become the majorities, the projections look different for American cities. In the District, it is projected that the African-American population will continue to decrease as Caucasian residents become the majority. Sustainable DC can—and should—play an active role in reducing the disparities that help cause these shifts. The first step in the process is to ensure that historically marginalized residents have an active voice in the decision-making process.

Sustainable DC 2.0 includes a new section intended to serve as an equity filter for the entire plan.

EQ 1.1: Create an Equity Impact Committee to guide equity in the development and implementation of the Sustainable DC Plan.

The District's Department of Energy and Environment will seek funding to launch the committee and provide for external consultation. The Committee will have a diverse, multi-generational membership, representative of community members and the public, private, and nonprofit sectors. It will monitor the implementation of the plan, including the development and tracking of metrics that focus on racial equity, to ensure significant progress toward equitable outcomes. This committee will serve as a catalyst to achieve a citywide commitment on racial

equity that will reduce disparities and address the increasing wealth and class gaps.

Timeframe: Short Term

Lead: DOEE

Partner: DPR, DOH

EQ1.2: Develop an Equity Impact Assessment Tool to help the District immediately address racial inequities related to sustainability.

A pilot Equity Impact Assessment Tool will help the District immediately address racial inequities. The tool will define cross-cutting, guiding principles to be used in the ongoing implementation and future updates of the Sustainable DC plan. By 2032, District Government agencies will be using the tool in the development of their plans and policies and the Sustainable DC plan will have been fully filtered through the tool. The tool is a guide that should be applied when planning processes are initiated, in order to hold the user accountable to ensuring no community bares a larger share of negative impacts. As the use of the tool grows, best management practices will be created to assist District agencies.

Timeframe: Short Term

Lead: DOEE

EQ1.3: Provide Equity-focused training for all District Government employees.

The Department of Energy and Environment will develop and deliver an equity-focused training for all District Government employees, including how they will apply the tool and equity principles to their work. These trainings will launch immediately following the creation of the Equity Impact Assessment tool. Ongoing trainings will focus on untangling racism, cultural humility, equity, equality, and bias and unintentional bias. This will serve as a starting point as all District Government employees learn the history of the city, so they more fully understand the fabric of the neighborhoods and communities they are serving.

Timeframe: Medium

Lead: DCHR

Partner: OHR

EQ 1.4 Focus community engagement on communities that have been historically under-represented.

District Government will commit to focusing community engagement efforts on communities that have been historically under-represented in planning processes. This will require new approaches to connect and build relationships. Government agencies and their staff should bring residents in at the beginning of planning processes to listen and learn about community priorities. This will allow projects and initiatives to more meaningfully support communal needs. This level of engagement will result in the co-creation of culturally relevant programming and initiatives that will help promote equity and sustainability in the daily lives of District residents.

Timeframe: Medium

Lead: DOEE

Partner: EOM

BUILT ENVIRONMENT

The District's population is currently approximately 700,000 people— an 11% increase since 2013, when Sustainable DC was first developed. All District residents need healthy, safe, and affordable places to live, work, and play, even as the District continues to be one of the most expensive cities in the United States. Simultaneously, climate change continues to be an increasingly serious threat. The District's buildings must become more energy-efficient to reduce the amount of greenhouse gas emissions we are contributing to the atmosphere. District Government must ensure growth in the built environment —meaning the city's human-made components like housing, utility lines, stores, and roadways—is sustainable, equitable, and resilient to the harmful effects of the changing climate.

District Government has already made strides in shifting the built environment toward greater sustainability. Clean Energy DC, the city's energy and climate action plan, includes a section dedicated to reducing energy use in buildings and increasing renewable energy generation, and the city has strengthened green building requirements through the original Sustainable DC Plan and the Green Building Act. Green buildings are sustainable because they meet the needs of their inhabitants while consuming fewer resources and protecting human health. They are also resilient, because they maintain their critical functions even in the face of disturbances like extreme weather.

However, sustainability is not sustainable without inclusivity, and there is more work to be done to ensure that the city's growth is equitable. District Government has launched a number of programs and has made significant citywide investments in creating and preserving affordable housing. For example, the Inclusionary Zoning Affordable Housing Program develops mixed-income communities by requiring new residential development to include affordable units. These developments support households of diverse incomes and boost the number of consumers for neighborhood businesses. More generally, increasing density throughout the city will help accommodate incoming residents and provide housing insecure residents with homes—without displacing existing residents.

SDC 2.0's actions on built environment have real-world benefits for the city at all levels:

Individuals: *SDC 2.0 aims to grow the city equitably, meaning that the actions aim to help residents find opportunities to reduce their utility bills and increase access to affordable housing. The plan also looks at ways to integrate the workforce into job opportunities in the built environment.*

Neighborhoods: *SDC 2.0 strives to build and strengthen neighborhoods based on each area's existing characteristics. Neighborhoods with high-capacity transit options would benefit from increased density, so more residents have access to public transit. Neighborhoods with fewer services like grocery stores would benefit from stronger commercial corridors. District Government will seek to ensure neighborhoods across the city are able to take advantage of sustainability programs.*

Citywide: *Actions in the Built Environment section of SDC 2.0 work to make buildings healthier and more energy- and water-efficient through data collection, regulation, and incentives. While some actions target only the largest buildings with the biggest environmental footprint, others apply to all buildings, recognizing that it will take a citywide effort to reach the District's sustainability goals.*

Goal 1: Sustainably and equitably accommodate future population growth within the District.

Target 1: By 2032, accommodate the District's projected population growth of 250,000 residents while maintaining quality and affordability for all.

BE1.1: Create and preserve energy- and water-efficient affordable housing (including low income and workforce housing) that accommodates different family sizes.

The District currently has a shortage of low-income housing, very low income, and workforce housing. District Government will continue to prioritize the creation and preservation of affordable housing through programs such as the Housing Production Trust Fund and the Inclusionary Zoning Affordable Housing Program, particularly housing options with multiple bedrooms for larger families. Because energy efficiency and solar energy can save households more than 50% on their utility bills, District policies and programs will prioritize energy and water efficiency and solar energy.

Timeframe: Ongoing annually

Lead: DMPED

Partner: OP, DHCD, DCHFA, DCHA

BE1.2: Expand brownfield redevelopment incentives.

Brownfields are previously developed properties that may have pollutants contaminating the site, making redevelopment of the land challenging. These sites are an opportunity for new housing, clean energy, parks, or retail. While the District already has a Voluntary Cleanup Program to support brownfield redevelopment, District Government will expand the program's incentives to promote the greatest use of these brownfields.

Timeframe: Medium term

Lead: DOEE

Partner: DMPED, DHCD

BE1.3: Reduce required parking minimums.

Underground parking can cost more than $45,000 per space per space, which translates to higher rents and development costs. When parking spaces are overly plentiful, they incentivize driving instead of walking, biking, or taking public transit. An estimated 36% of District households already don't own cars, and with the need for individual cars declining, District Government will reduce the required number of parking spaces that developers must provide.

Timeframe: Short term

Lead: OP

Partner: DDOT

Goal 2: Strengthen existing neighborhoods to be vibrant, walkable, and maintain their historic character.

Target 2: By 2032, provide essential services within a quarter-mile walk and a variety of services and amenities within a half-mile walk of all residents.

BE2.1: Create programs to support businesses to open and operate in neighborhood commercial corridors, focusing on vacant and underused spaces.

District Government will make it easier for local businesses to find space in neighborhood commercial corridors, including in vacant and underused existing buildings, through actions like streamlining the permanent and temporary permitting processes, providing tax incentives, or creating low-interest financing opportunities. These programs will help new businesses—including essential services like grocery stores—thrive, particularly in areas that don't have as much commercial development as desired by residents.

Timeframe: Short term

Lead: DCRA

Partner: OP, DMPED, EOM, DHCD, DSLBD

BE2.3: Encourage the development of affordable live-work units.

The District Government will encourage the development of affordable live-work units – spaces that combine a workspace with living quarters. Living closer to your work reduces traffic congestion, increases the number of people on public transit, and the number of residents who can simply walk to their work. Brookland Artspace Lofts is an example of affordable live-work housing in the District that allows artists to live and work in one space.

Timeframe: Medium term

Lead: DHCD

Partner: OP, DMPED

BE2.4: Locate affordable, high-density housing close to commercial zones and high capacity transit.

Increasing the number of residents living near public transportation and other amenities such as schools can reduce congestion and create quality neighborhoods. The ability to live near transit is even more important for people with lower incomes who can avoid the cost of owning a car. The District will continue to prioritize funding affordable housing near transit and other programs to increase the amount of transit-accessible affordable housing. New housing should be affordable for District residents and provide residents of all incomes with easy access to high quality transit and other amenities. District Government will promote policies and incentives to maintain the affordability of housing as transit service is expanded to new areas.

Timeframe: Long term

Lead: DHCD

Partner: OP, DMPED, DCHFA

BE2.5: Strengthen walkable, accessible, and vibrant commercial corridors by supporting small, District-based retail.

Walkable commercial corridors that are accessible to people of all abilities can provide a reliable base of customers, help neighborhoods retains their unique character, and allow residents access to retail and services without needing a car. District Government will strengthen investment in walkable commercial corridors through new increased investments in programs like DMPED's Great Streets, DSLBD's Main Streets, and DHCD's Façade Improvement programs.

Timeframe: Long term

Lead: DMPED, DSLBD, DHCD

Goal 3: Improve the performance of existing buildings by reducing energy and water use, advancing health, and increasing livability.

Target 3: By 2032, audit 100% of existing commercial and multi-family buildings and implement improvements to achieve energy reduction goals.

BE3.1: Rehabilitate public housing to be energy- and water-efficient, equipped to meet net-zero energy standards, and provide a healthy environment for occupants.

Since 2013, the DC Housing Authority has retrofit much of the District's public housing to improve energy and water efficiency, as well as to improve the quality of the indoor environment to support the health of the over 7,000 families who reside in public housing. Indoor environmental quality is important because chemicals, poor ventilation, and other issues can contribute to asthma and other respiratory diseases. The DC Housing Authority will ensure all existing public housing is energy-and water-efficient in addition to providing a healthy indoor environment for residents. Further, the DC Housing Authority will work to ensure that all newly built public housing can meet net-zero energy standards – meaning they are built to consume the same amount of energy onsite as

they generate or offset from renewable energy annually.

Timeframe: Long term

Lead: DCHA

Partner: DOEE, DMPED

BE3.2 Develop a green building workforce by training built environment professionals and building operations staff in the latest green skills.

Making sure that all buildings in the District run as efficiently as possible is a fast, low-cost way to reduce carbon emissions. However, this requires a skilled workforce trained in building operations and energy management, including renovating buildings to be more sustainable and operating existing buildings as efficiently as possible. District Government will train this vital workforce and share best practices in both reducing the amount of energy used in existing buildings and in maximizing new smart building technology such as energy monitoring and automatic response systems.

Timeframe: Short term

Lead: DOES

Partner: DGS, DOEE, DCPS

BE3.3: Build public-private partnerships to expand best practices for building operations and maintenance.

District Government will form public-private partnerships to promote best practices, trainings, and tools for building operations and maintenance throughout the District's commercial and public buildings, including schools and libraries. For example, District Government already has created a curriculum in partnership with the University of the District of Columbia to train public and private building engineers. This curriculum could be expanded to reach a wider audience of building operators and include other topics like healthy building operations and bird-friendly buildings.

Timeframe: Short term

Lead: DGS

Partner: DOEE, OP3

BE3.4 Retrofit and maintain all public buildings to reduce energy use by 50% and maximize installation of renewable energy technology.

In order to save money and to make progress towards the District's goal to reduce greenhouse gas emissions, District Government will endeavor to ensure that energy use is as efficient as possible, and supplemented by renewable energy generated onsite. In alignment with the Clean Energy DC plan, District Government will continue to retrofit all public buildings to reduce energy consumption, and will continue to identify opportunities to install

onsite renewable energy technology, like the 463-kilowatt solar panel installation at Dunbar High School.

Timeframe: Long term

Lead: DGS

Partner: DOEE

BE3.5: Complete energy assessments of all District homes and buildings.

Auditing all of the buildings in the District to understand their energy performance and identify strategies to save energy is no small undertaking, but smart meter technology now allows energy assessors to audit more buildings virtually by analyzing data remotely. In alignment with the Clean Energy DC plan, District Government will develop a program to audit more buildings virtually to get the data necessary to help building owners make smart improvements and target the District's incentive programs to help lower energy bills.

Timeframe: Medium term

Lead: DOEE

Goal 4: Ensure the highest standards of building performance and operation for all new construction, including net-zero energy use, while advancing health and overall livability.

Target 4: By 2032, meet net-zero energy use standards with all new construction projects and develop policies or regulation to improve the sustainability, livability, and resilience of new development.

BE4.1: Require higher levels of energy efficiency, renewable energy requirements, net zero standards for new construction, and broader sustainability metrics for public projects.

The District Government will ensure that public projects funded and controlled by the District remain at the forefront of best practices in new construction across all categories of sustainability, from energy and water efficiency, to renewable energy requirements, to sustainable sites and indoor environmental quality that supports human health. For example, by 2022 the District will require all new construction and major renovations of District Government-owned buildings to meet net-zero energy standards. This means that these buildings will only consume as much energy as they can generate onsite (such as through the use of solar panels), or offset by the purchase of renewable energy elsewhere.

Timeframe: Long term

Lead: DOEE

Partner: DGS, DCRA, DCPS, OCA

BE4.2: Provide incentives for new building projects to achieve net-zero energy.

Building a new net-zero energy building can cost more upfront, but will save money over time. Aligning with the Clean Energy DC plan, District Government will incentivize net zero building by offering a coordinated set of incentives like tax abatements, accelerated permitting, and special financing to help move the real estate market towards new net zero construction.

Timeframe: Medium term

Lead: DOEE, DCRA

Partner: EOM, DMPED

BE4.3: Incorporate sustainability best practices into neighborhood planning.

Environmentally-friendly, livable neighborhoods are more than just energy and water-efficient – they are pedestrian-friendly, healthy places to live, with green spaces, amenities, and mixed use building options that house people across the income spectrum. They also seek to reduce the negative impact that the built environment can have on wildlife, and find ways to bring people and nature closer together for the well-being of all residents. District Government will endeavor to incorporate principles from the many best practice principles available addressing walkability, wildlife, equity, and health –such as LEED for Neighborhood Development, STAR Community Rating System, and Living Community Challenge while guiding new neighborhood growth in the District.

Timeframe: Ongoing

Lead: OP

BE4.4: Adopt the latest green construction codes for all new construction and major renovations.

The International Green Construction Code (IgCC) is an international standard for the most innovative practices in green building. District Government will continue to integrate the most recent version of the IgCC in the city's construction codes for all new construction and major renovations, which will apply to both public and private buildings, over 10,000 square feet.

Timeframe: Short term

Lead: DCRA

Partner: DOEE, DGS, EOM

BE4.5: By 2026, update the building energy codes to require that all new buildings achieve net-zero energy use or better.

Reaching the District's goal to eliminate carbon emissions by 2050 will require all new buildings to achieve net-zero energy in the near term, as the buildings built today will exist well into the future. As called for in the Clean Energy DC plan, the District's building energy codes, which are updated every three years, should be updated

by 2026 to require that all new buildings achieve net-zero energy use or better. Prior to 2026, the District will provide incentives to projects that voluntarily seek to achieve net-zero energy use.

Timeframe: Medium term

Lead: DCRA

Partner: DOEE

CLIMATE

The District is already experiencing the impacts of human-made climate change.

The District is already experiencing the impacts of human-made climate change. Climate change refers to long-term changes in global temperature, precipitation, wind patterns, and other aspects of climate. These global changes have serious consequences at the city level. In the past few years, the District has seen:

- Record-breaking extreme weather (heat waves and snowstorms)
- Higher tides caused by rising sea level
- Heavy rains and flooding
- Warmer average temperatures and two to three times as many dangerously hot days

These climate change impacts can cause property damage and harm critical infrastructure—the infrastructure we depend on daily, including telecommunications, energy, transportation, water, and wastewater. The direct impacts of variable weather threaten both the safety and the quality of life of District residents.

District Government is approaching climate change from two sides: mitigation and adaptation. Mitigation refers to reducing greenhouse gas emissions (carbon dioxide, methane, and nitrous oxide). The District has a long-term goal to reduce greenhouse gas emissions until the level of emissions created by city activities is offset by renewable energy generation. The District is committed to becoming carbon neutral and climate resilient by 2050. Progress toward this goal is measured by an annual inventory of the city's greenhouse gas emissions (GHGs). Since the District began tracking GHGs in 2006, emissions have fallen by approximately 29%. This is progress, but there is much more work to do.

Adaptation means adjusting to the impacts of climate change, and the District Government has outlined how the city will adapt in Climate Ready DC. Published in 2016, Climate Ready DC shows how the District can bounce back from the impacts of climate change, even as we work to make the city healthier and more livable. SDC 2.0 incorporates Climate Ready DC's adaptation strategy side-by-side with the District's mitigation strategy.

SDC 2.0's actions on climate have real-world benefits for the city at all levels:

> ***Individual:*** *Climate change will impact all residents, but the impacts for some may be more serious, based on a number of factors: age, income level, geographic location, and other characteristics. The actions in SDC 2.0 focus on helping all residents adapt to climate change, especially those most at-risk economically and physically, and shows that mitigation efforts shouldn't unfairly burden people with low incomes.*
>
> ***Neighborhood:*** *Climate change may impact parts of the city differently. Low-lying neighborhoods near the Potomac and Anacostia Rivers are more likely to be impacted by sea level rise and coastal flooding, while neighborhoods without green vegetation are more likely to be impacted by heatwaves. SDC 2.0 focuses on improving the adaptive capacity of neighborhood building blocks—transit, energy, water, and telecommunications—so communities can bounce back quickly after extreme weather events.*
>
> ***City:*** *SDC 2.0 helps set climate adaptation and mitigation priorities for the entire city. These requirements include specific policies tailored toward city government and stakeholders whose work impacts many people, such as real estate developers.*

Goal 1: Reduce greenhouse gas emissions from all local sources to put us on track to eliminate emissions by 2050.

Target 1: By 2032, reduce greenhouse gas emissions by 50%.

CL1.1: Build awareness and provide resources to empower people and organizations to take actions to reduce their share of greenhouse gas emissions.

Day-to-day energy use in buildings and vehicles, along with waste generation, make up of nearly all of the District's greenhouse gas emissions (GHGs). In order to reduce the overall quantity of GHGs, the District Government will provide support and resources to people and organizations so that they are able to cut their energy use and waste generation in their daily routines

Timeframe: Short term

Lead: DOEE

Partner: OCTO

CL1.2: Establish a price on carbon and use revenue to invest in clean energy and climate adaptation while protecting people with low incomes.

A carbon price would require emitters to pay a price based on the amount of GHG emissions they create. This

would encourage emitters to reduce their emissions in an effort to reduce the amount they must pay. District Government will create an income-based exception, rebate, or incentives so that this additional cost does not burden people with low incomes. Revenue raised by the carbon price would be invested into projects that help District residents, including those with low incomes, reduce GHG emissions and save money, such as subsidizing the cost of solar installation or energy efficiency upgrades.

Timeframe: Medium term

Lead: DOEE

CL1.3: Report District emissions annually to track the reductions that can be attributed to specific initiatives.

Every year, District Government tracks and reports GHG emissions by sector in an annual "Greenhouse Gas Inventory." This inventory covers emissions from sources within the District as well as emissions that are created outside the city boundary as a result of activities taking place inside the District (for example the generation of electricity for District use). The inventory can help identify which initiatives are helping to reduce the city's emissions and where more work needs to be done. The District will report the results of this inventory each year and follow international protocols to ensure data quality.

Timeframe: Ongoing annually

Lead: DOEE

Partner: DGS, DPW, DDOT, DCRA, OPC,

CL1.4: By 2020, develop a plan to achieve carbon neutrality by 2050.

Mayor Bowser has committed the city to achieving citywide carbon neutrality by 2050. This means that the District will eliminate GHG emissions, or offset any remaining emissions by supporting initiatives outside the District that will reduce emissions like tree planting, renewable energy, and land conservation. In the short term, the District Government will develop a detailed implementation plan with clear milestones in order to achieve carbon neutrality by 2050.

Timeframe: Short term

Lead: DOEE

CL1.5: Measure and eliminate methane gas leaks into the atmosphere throughout the District.

Methane is a potent greenhouse gas that can leak from the pipelines that distribute natural gas to buildings. Although methane only lasts in the atmosphere for about a decade, it can cause about twenty-eight times as much global warming as carbon dioxide, making it important for the District Government to take steps to identify and eliminate leaks.

Timeframe: Long term

Lead: DOEE

Partners: OPC

Goal 2: Advance physical adaptation and human preparedness to increase the District's resilience to climate change.

Target 2: By 2032, require 100% of new buildings, major infrastructure, and neighborhood plans to consider climate risks and identify adaptation solutions.

CL2.1: Evaluate and reduce the vulnerability of the District's transportation, energy, water, and telecommunications infrastructure to the anticipated impacts of climate change.

As detailed in *Climate Ready DC*, it is essential that critical infrastructure remain in service or be quickly restored in the event of extreme weather, heat, and flooding. These services keep residents safe, healthy, and connected. Any significant climate risks to energy, water, transit, and telecommunications infrastructure should be evaluated and addressed. For example, severe storms can knock out power to entire neighborhoods. Microgrids, which provide backup power even when the grid is down, should be installed in critical facilities like hospitals.

Timeframe: Medium term

Lead: DOEE

Partner: HSEMA, OP, DGS, DDOT, DC Water, OCTO, UCC, ORM, EOM

CL2.2: Improve emergency and community preparedness to respond to climate change events including extreme heat, storms, and flooding, with a focus on the most at risk populations.

Some of the areas of the District that are most likely to flood or experience power outages during extreme weather are also home to people who have fewer resources to respond to risks and may be more sensitive to climate impacts. For example, a storm may be particularly dangerous and disruptive for someone dealing with other health issues or facing job or housing insecurity. Paying attention to the Vulnerable Populations Map used in *Climate Ready DC*, District Government will work to develop and promote emergency and community preparedness plans to ensure that the all residents and communities are ready to an extreme weather event, including in the event of an evacuation.

Timeframe: Medium term

Lead: HSEMA

Partner: MPD, FEMS, DDOE, OP, DCHA

CL2.3: Require all new development projects to assess climate risks and incorporate climate adaptation solutions.

District Government will require new development projects to consider climate risks and proactively identify

adaptation solutions that would reduce eventual damage caused by climate change impacts. For example, developers could use trees, vegetation and green infrastructure to help reduce runoff and the risk of flooding streets and buildings. Developers could counteract the high temperatures found in areas with lots of paved surfaces and buildings (the "urban heat island effect") by installing a green roof (a roof with vegetation that helps insulate the building against heat gain) or cool roof (a roof which reflects sunlight and absorbs less heat), both of which would lower the temperature of the building and the surrounding area.

Timeframe: Medium term

Lead: OP

Partner: DOEE

CL2.4: Fully implement and regularly update the Climate Ready DC plan, the District's plan to adapt to the changing climate.

The first Sustainable DC Plan established a goal to make the District more resilient to climate change, which took shape as the *Climate Ready DC* plan – the District's plan to prepare for the impacts of climate change. *Climate Ready DC*'s actions will be implemented by District Government and partners, and will be updated as needed to ensure that goals remain relevant as the environment continues to change.

Timeframe: Ongoing

Lead: DOEE

ECONOMY

The District is the economic engine of the Washington metropolitan region and a national center of economic importance. However, to remain strong, the District needs to keep its growth rate high and significantly diversify its economy as we are still overly reliant on the federal government. While the District's unemployment rate has fallen from 8.4% in February 2013 (when Sustainable DC was first released) to 5.7% in March 2018, it is higher than the national average of 4.1%. Further, unemployment rates are unequal across the city. As of December 2017, while Wards 2 and 3 have unemployment rates of 3.2% and 3.3%, respectively, Wards 7 and 8 have unemployment rates of 9.9% and 12.8%, respectively[1]. Recent analysis shows that the unemployment rate for black residents is 12.9% more than eight times higher than the unemployment rate for white residents at just 1.5%[2].

The DC Economic Development Strategy has two goals: 1) grow a vibrant and resilient economy driven by private sector expansion, and 2) foster economic prosperity for all DC residents by increasing job opportunities and decreasing employment disparities. The economy section of Sustainable DC mirrors these goals, with the added context of sustainability. There is strong potential for a focus on sustainability to grow the economy and create new jobs. For example, in 2016, United States job opportunities in solar increased by 25% and the number of people working in wind energy increased by 32%. To prepare residents—especially underemployed residents—to work in the green economy, training programs with wraparound services are necessary. District Government has several successful existing models for green job training programs, including Solar Works DC, which provides 12 weeks of hands-on training in solar energy, and the DC Infrastructure Academy, which recruits, screens, and trains residents for jobs in high growth infrastructure fields such as renewable energy and stormwater management. The Department of Energy and Environment also runs several green employment initiatives, including the Green Zone Environmental Program teaches more than 300 young adults about energy and environmental issues, and provides work experience on projects like installing solar, building rain gardens, installing storm drain markers.

SDC 2.0's actions on economy have real-world benefits for the city at all levels:

Individual: *Green jobs can pay well! The median hourly wage for solar installers in the District is $26, which equals*

1https://does.dc.gov/sites/default/files/dc/sites/does/page_content/attachments/Ward_2017_BM.pdf
2https://wamu.org/story/18/05/18/d-c-s-black-unemployment-rate-remains-among-highest-country/

roughly $54,000 annually as a full-time job. [3]

Neighborhood: *The green economy is also about helping existing businesses save money by being more sustainable. District Government offers innovative financing and generous financial incentives to help small businesses use less energy, install solar, put on green roofs, and more.*

City: *A sustainable city is an equitable city. Effective, supportive training programs connected to in-demand fields focused on communities with the highest unemployment rates, namely African-Americans without Bachelor's degrees living in Wards 7 and 8, provide pathways to the middle class. While sustainability isn't the lone answer, smart green job training programs are an important part of the solution.*

Goal 1: Grow and diversify the District's economy, focusing on sustainability, climate, and resilience industries.

Target 1: By 2032 develop three times as many small District-based businesses.

EE1.1: Provide training, financial assistance, and marketing for sustainable business start-ups, targeting strategic populations.

About half of new businesses go out of business within four years of opening their doors so training, financial assistance, and promotion from District Government (including DSLBD, DMPED, and DHCD) can be the difference in helping a new business succeed. To strengthen the sustainability economy, the District will provide new training programs on sustainable businesses, provide new financial resources, and help promote legitimate sustainable businesses. These resources will strategically focus on populations underrepresented in business ownership.

Timeframe: Medium term

Lead agency: DSLBD, DOEE

Partner agencies: DMPED, DHCD, DMGEO

EE1.2: Partner with anchor institutions such as hospitals and universities to purchase from local sustainability-related businesses.

Anchor institutions are major stable major organizations and corporations in a city that are unlikely to relocate, such as universities, hospitals, and large international institutions. District Government will partner with these major institutions to direct their substantial purchasing power to help establish and grow small businesses related to sustainability. A successful example of this is the Evergreen Cooperatives in Cleveland that supply fresh produce, green laundry services, and energy efficiency improvements to universities and healthcare institutions in the University Circle area through a long-term agreement.

Timeframe: Medium term

Lead agency: DSLBD

3https://doee.dc.gov/release/doee-and-does-launch-solar-works-dc

Partner agencies: DOEE, OCP

EE1.3: Work with private partners to support new incubators and "maker spaces" with focus on communities most in need.

New entrepreneurs often have difficulty getting access to specialized equipment and technology required to operate their businesses but is too expensive for most people to buy on their own. District Government will collaborate with private partners to facilitate and help fund new business incubators and "maker spaces" that provide shared access to specialized equipment and technology to make things. Locations and types of equipment will prioritize communities with the greatest need and least access to such equipment. A successful existing example is the District of Columbia Public Libraries mobile fabrication labs that allow residents use laser cutters, 3-D printers, soldering tools, and sewing machines, and offers workshops on how to use them.

Timeframe: Short term

Lead agency: DSLBD

Partner agencies: DCPL, DMPED, DMGEO

EE1.4: Increase number of businesses that offer sustainable products and services by connecting them to third party certification programs.

As more businesses offer sustainable products and services, it's increasingly important to separate the real deal from "green washing"—pretending to be environmentally-friendly to attract new customers. Third party certification programs like Green Seal, Green America, R2, and B-Corporations can help make it clear which businesses have legitimate sustainable options. District Government will help educate businesses on options for certification and provide financial assistance to reduce the cost of certification programs.

Timeframe: Short term

Lead agency: DOEE

Partner agencies: DSLBD, DMPED

EE1.5: Provide training and financial resources to District businesses to operate more sustainably.

It is difficult for most small to medium business owners to find time to learn how and why to make their business operate more sustainably, but the payoff in financial savings and new customers is well worth the effort. The District will lower barriers to "going green" by making training easy to find and participate in, and connecting them to financial assistance such as solar installation, energy efficiency, and stormwater management. Community partners could include Think Local First and Business Improvement Districts.

Timeframe: Short term

Lead agency: DOEE

Partner agencies: DSLBD, DMPED

EE1.6: Launch the DC Green Bank by 2020.

Widespread installation of renewable energy (energy sources that don't use fossil fuels) and energy efficiency projects is critical to meeting Sustainable DC's energy and climate goals. However, financing large-scale deployment is often so complicated that it prevents important investments in sustainability. New innovative financing through the DC Green Bank will lower these barriers by removing the upfront cost of adoption, leveraging private investment, and increasing the efficiency of public dollars. The District of Columbia Green Finance Authority Establishment Act of 2018 will enable the District to launch and oversee the Green Bank and create momentum for financing these renewable energy projects.

Timeframe: Short term

Lead agency: DOEE

Goal 2: Train District residents to be competitive for livable wage jobs in growing industries such as sustainability, the environment, and resilience.

Target 2: By 2032, cut citywide unemployment by 50% in severely unemployed populations.

EE2.1: Partner with the Workforce Investment Council to identify the fastest growing sustainability fields for future job training programs.

The Workforce Investment Council (WIC) is a private-sector led board responsible for advising District Government on the development, implementation, and continuous improvement of an integrated and effective workforce investment system. By working with the WIC to forecast the fastest growing sustainability fields (for example solar installation or rain garden maintenance), the District will be in the best position to design sector-specific training sessions to ensure District residents are prepared to benefit from new sustainability job opportunities.

Proposed: Short Term

Timeframe: Medium term

Lead agency: DOEE, DOES

Partner agencies: WIC, DMPED

EE2.2: Help connect underemployed residents with job opportunities in growing fields such as sustainability, climate, and resilience.

After working with the WIC to identify the best opportunities for new jobs in sustainability, the District will connect underemployed residents to those training programs and any necessary wraparound services. Working with the Department of Employment Services (DOES), community organizations, and local businesses, the District will match trained residents with jobs paying living wages in industries related to sustainability, climate, and resilience.

Proposed: Medium term

Timeframe: Medium

Lead agency: DOES

Partner agencies: DOEE, DMPED

EE2.3: Create new paid job opportunities in sustainability fields for young adults and high schools students, focusing on populations with highest unemployment rates.

The unemployment rate for black District residents is 8.5 times higher than that of white residents. While jobs in sustainability won't eliminate this disparity, they can play a role in closing it with the right programs. The District will create a training pipeline for jobs in sustainability starting with *paid* opportunities for young people, including high school students. This could include partnering with DCPS on vocational education programs with mainstream certification programs that can be applied to jobs in sustainability such HVAC training.

Timeframe: Medium term

Lead agency: DOEE

Partner agencies: DOES, DCPS

EE2.4: Track the economic impact of sustainability jobs on the local economy.

Without good data to back up assumptions and case studies, it has been difficult to make a strong case for investing in sustainability jobs. By dedicating the resources to accurately track the economic impact of sustainability jobs on the local economy, the District can make better investments in training programs, wrap-around services, and sustainability-focused businesses.

Timeframe: Short

Lead agency: DOEE

Partner agencies: DOES, DMPED

EDUCATION

Sustainability education is fundamental to the success of Sustainable DC. This includes education of our young people within the formal education system as well as community-wide education on the benefits and importance of sustainability. In a recent survey, 49 percent of residents responded they had not heard of Sustainable DC, but that 68% were supportive of sustainability. This is a good foundation of support, but shows we have work to do when it comes to sustainability education. Another theme in a recent survey was that sustainability doesn't feel inclusive—that it is only for some residents, but not others. This is particularly true among residents of color. District government has a lot of work to do to better include people of color and ensure that sustainability is relevant, meaningful, and welcoming to all District residents.

Currently, the main forms of sustainability education by District Government are the implementation of Office of the State Superintendent of Education's Environmental Literacy Plan, community engagement by the Department of Energy and Environment, including its Sustainable DC Ambassadors program and the Green Zone Environmental Program, and Department of General Services programs to reduce wasted food and electricity in schools. Much more expansive sustainability education is done by the District's strong network of environmental and sustainability nonprofit organizations.

SDC 2.0's actions on education have real-world benefits for the city at all levels:

Individual: The District's public school buildings, recreation centers, and libraries are critical facilities for the development of residents. As we renovate these buildings to be healthy and green, they become excellent opportunities for residents to learn about green building, energy-efficiency, stormwater management, and sustainable waste diversion. By making buildings more sustainable, we are also transforming them into tools for learning.

Neighborhood: Every resident, regardless of where they live or who they know, deserves to understand all the services and financial incentives that District Government offers. They also deserve a convenient way to weigh in on plans and projects. Through Sustainable DC, District Government will have a method of ensuring its community engagement is equitable and fair.

Citywide: A growing population of sustainability stewards engaged in community-driven processes will lead to positive impacts in all communities, but especially communities of color and those with limited English proficiency. More importantly, District Government employees will have the opportunity to better understand how to shape programs and initiatives that are most attractive to residents from all eight wards.

Goal 1: Ensure that every student in the District graduates with the knowledge to protect and restore their local environment.

Target 1: By 2032, teach 100% of children in the District about environmental and sustainability concepts.

EE1.1: Modernize all public school buildings, recreation centers, and libraries to reduce their environmental footprint and integrate sustainable and healthy practices into their operations.

To ensure that our students (and residents) have the best possible educational and recreational environments, the District must continue to renovate District public schools, libraries, and recreation centers to efficiently use energy and water, manage waste, and maintained with sustainability and health in mind. District Government will promote interactive learning and stewardship opportunities through sustainability elements of these buildings such as rain gardens, green roofs, and sustainable cleaning programs at these buildings. District Government will develop learning materials to help students and guests can learn about sustainability via these important public buildings.

Timeframe: Medium term

Lead: DGS

Partner: DCPS, DCPL, DPR

EE1.2: Develop an online toolkit for teachers to educate students on environmental and sustainability concepts.

Educating District students on sustainability and the environment is one of the most common comments we hear from residents when talking about sustainability. Providing resources for teachers to make it easy and convenient to talk to their students about these topics is critical if we want sustainability to compete with the many other important topics every teacher must cover. To help teachers, District Government will create an online toolkit guided by standards within the 2014 Environmental Literacy Framework and containing resources come from educational partners in the District as well as best practices from across the country.

Timeframe: Short term

Lead: DOEE, OSSE

Partner: DCPS

EE1.3: Implement the Environmental Literacy Plan in school curriculum.

In order to support the implementation of the Environmental Literacy Plan (ELP)—the District's plan for aligning sustainability and environmental education with existing curriculum—Sustainable DC 2.0 has been updated , the sustainability plan goals, targets, and actions have been updated to better align with the ELP. To further propel this effort, the online toolkit in EE1.2 will be guided by standards within the 2014 Environmental Literacy Framework.

Timeframe: Short term

Lead: OSSE

Partner: DOEE, DCPS

EE1.4: Provide adequate funding so that every student will have meaningful environmental experiences in elementary, middle, and high school.

The District Government's current program effort, facilitated by DOEE, only reaches 39% of 5th graders in a given year. There are no Meaningful Watershed Environmental Experience's (MWEEs) for high school, and fewer options for grades K-4 and 6-8. In order to provide meaningful environmental experiences for all students between grades 3-12, District Government will need to increase dedicated funding and staffing dedicated for this important program.

Lead: EOM

Partner: OSSE, DCPS, DOEE

EE1.5: Provide dedicated scholarship funding to allow District residents of color to major in sustainability programs in higher education.

While it is projected in the coming decades that people of color will make up the majority population in the United States, the same is not true for people of color in environmental fields. Studies show that while people of color increasingly support environmental protections at higher rates than whites, they have not broken the "green ceiling." Only 16% of environmental jobs are held by people of color. District Government can take a bold step to diversify environmental fields by supporting targeted educational attainment for its residents.

Timeframe: Long term

Lead: EOM

Partner: OSSE, DCPS, DOEE

Goal 2: Expand community education and engagement on sustainability practices that will help residents live green lifestyles and save money.

Target 2: By 2032, leverage resources expose 100% of District residents living in underserved and underrepresented communities to sustainability events and initiatives in their neighborhood.

EE2.1: Increase awareness of District residents on sustainable living using culturally relevant and community-driven materials.

A 2017 DOEE survey showed residents—especially people of color—wanted to know more about how to "go green" in their daily lives. In response, District Government will provide practical actions that residents can take to be more sustainable such as reducing their use of single use plastic bags, washing clothes in cold water, eating less red meat, and using programmable thermostats to control and balance in home temperatures while they are away. Information and resources will be co-created with the community—focusing on under-represented residents—and culturally relevant.

Timeframe: Short term

Lead: DOEE

Partner: DOEE, OP

EE2.2: Increase participation of people of color in Sustainable DC community events, planning efforts, and implementation of programs and policies.

The District Government will work to better represent people of color in sustainable planning by intentionally prioritizing work in historically underserved communities. To garner support for these projects, the District Government will engage residents at the outset of processes to ensure community priorities (for example, economic mobility, employment opportunities, and youth development) are factored into the decision making process and framing of plan and project goals.

Timeframe: Short term

Lead: DOEE

Partner: DMGEO, OP, EOM

EE2.3: Recognize residents and community leaders for their sustainability achievements with awards and in public sustainability campaigns.

The District Department of Energy and Environment (DOEE) hosts an annual Sustainability Awards ceremony, where business, schools, and partners are honored for the achievements and contributions to the sustainable goals in the District. DOEE will make a commitment to expand the reach of and diversify the cohort of those who are honored to include more people of color, for their contributions to the District's sustainability.

Timeframe: Short term

Lead: DOEE

Partner: EOM

EE2.4: Develop a list of actions that residents should take to help reach our sustainability goals based on data.

The ambitious goals of Sustainable DC and its sister plans like Clean Energy DC and MoveDC will not be met without the participation of District residents. Based on analysis, District Government will create a list of actions that are most needed for residents to take. District Government will incentivize residents through creative campaigns and friendly competitions to promote these actions.

Timeframe: Short term

Lead: DOEE

EE2.5: Create and promote accessible opportunities for adults to learn and build connections to the natural world.

DOEE currently provides funding to organizations to train and educate residents to become Master Gardeners, Master Naturalist, and Watershed Stewards. We envision using the foundations of these programs to attract new audiences to help us create programs that are both accessible and provide marketable skills.

Timeframe: Short term

Lead: DOEE

Partner: DPR, DMGEO

Energy literally powers our city– it lights our buildings, heats and cools our homes, and fuels our motorized vehicles. However, generating energy from fossil fuels releases the greenhouse gas emissions that cause climate change. In fact, 97% of the emissions in DC come from using energy, and 75% of emissions come just from the energy used to heat, cool, and power buildings. Energy generation from fossil fuels also have an impact on regional air quality. One of the biggest challenges for DC is how to reduce costs, reduce energy use overall, and shift the power supply to renewable sources like solar and wind—all while the District's population and economy continue to grow.

The District's approach to address this challenge is detailed in the District's energy and climate action plan, Clean Energy DC, and the energy section of Sustainable DC is closely aligned. Clean Energy DC is the roadmap for meeting the District's climate change goals by increasing clean energy and reducing dirty energy—meaning the

ENERGY

District government will help businesses, residents, and city operations improve energy efficiency and increase their access to renewable energy. Clean energy is energy generated with no pollution or carbon emissions in contrast to dirty fuels (like coal and most oil). The District already has some significant tools: The DC Sustainable Energy Utility was created to help residents and businesses use less energy and save money, while Property Assessed Clean Energy (PACE) financing and the newly established Green Bank provide innovative financing for energy efficiency and clean energy upgrades.

SDC 2.0's actions for energy have real-world benefits for the city at all levels:

Individuals: Actions in SDC 2.0's energy section apply to residents where they live and work through efforts to make it easier for people to access energy efficiency upgrades and renewable energy financing for home systems. SDC 2.0 also aims to end power outages by building resilience into our energy system.

Neighborhoods: Energy systems that work at the neighborhood level take advantage of a larger scale – entire neighborhoods can band together to install and use solar power, for example. SDC 2.0 outlines actions to incentivize energy actions at this level.

Citywide: Actions in SDC 2.0 will have an impact on buildings, lighting, and access to renewable power citywide, and also incentivize improvements to the District's electrical grid. City officials in the Mayor's office, the District Sustainability Energy Utility, PEPCO, District Public Schools, and the Departments of Transportation, General Services, Employment Services, and Energy and Environment, will look to this plan when they set their energy priorities for the fiscal year.

Goal 1: Improve the efficiency of District-wide energy use to reduce overall consumption.

Target 1: By 2032, cut per capita energy use District-wide by 50%.

EN1.1: Expand regular tracking and disclosure of energy performance.

Buildings consume more than half of all energy in the District through heating, cooling and electricity. The first step to managing energy use is to measure it. Energy benchmarking refers to programs that require building owners to track and disclose their energy use. The District was one of the first cities in the nation to require the annual tracking and disclosure of energy use for large buildings through its energy benchmarking program. Other cities now require smaller buildings to disclose their energy use at key points such as time of sale. The District will expand its

existing program to include additional buildings through a variety of mechanisms.

Timeframe: Short term

Lead: DOEE

Partner: DGS

EN1.2: Establish a Building Energy Performance Standard for existing large buildings.

A Building Energy Performance Standard (BEPS) would establish regular energy check-ups of buildings and require the owners of poorly performing buildings to improve the energy efficiency of their buildings. The District Government will develop and implement a BEPS, as described in the Clean Energy DC Plan, for existing large buildings. This will substantially reduce GHG emissions since energy consumed by buildings is the leading source of greenhouse gases in the District.

Timeframe: Short term

Lead: DOEE

Partner: DCRA

EN1.3: Replace all street and public lighting with high efficiency fixtures that protect public health, reduce light pollution, and don't harm wildlife.

Adequate public lighting (such as street and traffic lights) is critical to public safety, and District Government is already replacing street lights with more efficient light-emitting diode (LED) versions. While LED lights generally use 75% less energy and can last more than 25 times longer than incandescent bulbs, some forms of LED lighting emits a blue-white light that can be bad for animals and human circadian rhythms. When replacing street and public lighting in the future, District Government will follow the American Medical Association's recommendations to use lights with a color temperature of no greater than 3000 Kelvin as well as ensure that light fixtures direct light downwards where it is needed, instead of into trees and windows that disrupt feathered and human residents.

Timeframe: Short term

Lead: DDOT

Partner: DGS, DCPS, DPR

EN1.4: Fully fund, implement, and regularly update the Clean Energy DC plan, the plan to achieve the District's greenhouse gas reduction goals.

The Clean Energy DC plan is the Department of Energy and Environment's proposal to reduce greenhouse gas

emissions 50% below 2006 levels by 2032, by reducing energy consumption and increasing renewable energy within the District. The plan describes in detail 57 actions that will allow the city to meet its overall climate and energy goals. In order to fulfill the goals of Clean Energy DC, the District Government will fully fund, implement, and periodically revisit the Clean Energy DC plan to ensure that periodic targets are being met and latest data and technology are considered.

Timeframe: Medium term

Lead: DOEE

Partner: DGS, EOM

EN1.5: By 2020, launch a citywide educational and behavioral campaign to lower citywide energy use and expand awareness of the District's resources for efficiency and renewable energy.

One of the quickest and most cost-effective ways to lower citywide energy use is for individuals and businesses to lower their energy consumption. However, many residents aren't aware that there are opportunities and financial incentives offered by the District Government to help them save on their energy costs District Government will launch a campaign to help residents take advantage of these resources, from reminders about ways individuals and neighborhoods can save energy, to home audits and weatherization.

Timeframe: Short term

Lead: DOEE

Partner: DCPS, EOM, OSSE, DCHA

EN1.6: Launch a program to accelerate deep energy retrofits in at least 20% of all buildings.

A deep energy retrofit analyzes an entire building in order to identify and upgrade areas where investments in energy efficiency can have the biggest impact. The process can help building owners save on energy costs over time, but upfront costs make it more difficult for building owners to invest in energy efficiency. District Government will develop and launch a program providing financial incentives to help all building owners, including residential and commercial, embark on deep energy retrofits that will make buildings less expensive to operate and cut greenhouse gas emissions. The twenty% of all buildings will be determined by floor area.

Timeframe: Short term

Lead: DOEE

Goal 2: Increase the proportion of energy sourced from both clean and renewable supplies.

Target 2: By 2032, increase renewable energy to make up 50% of the District's energy supply.

EN2.1: Reduce the use of fossil fuels for electricity generation and heating, and eliminate the dirtiest fuels by 2023.

Burning coal, gas, and oil for electricity and heating can negatively impact air quality, and emits the greenhouse gases that cause climate change. Through the Renewable Portfolio Standard and other policy tools and incentives, District Government will collaborate with residents and the private sector to decarbonize their energy supply, including heating systems, and will work to completely eliminate the most polluting fuels – coal and the dirtiest fuel oils – by 2023. Ways to accomplish this action include but are not limited to: using power purchase agreements to buy electricity with bundled RECs from renewable sources, electrifying heating systems in buildings by using efficient heat pump technologies, using battery storage or low carbon Combined Heat and Power, and using carbon-neutral biomass or biogas.

Timeframe: Medium term

Lead: DOEE

Partner: OPC

EN2.2: Build and support commercial and residential renewable energy projects sufficient to get at least 5% of citywide electricity from local generation.

Locally generated electricity from renewable sources has many benefits for the District: it helps reduce greenhouse gas emissions, reduces regional air pollution, diversifies the local energy supply, lowers energy bills, and can even help create jobs in renewable energy installation. District Government will oversee and support both commercial and residential renewable energy projects, including the option to share a solar project among several neighbors ("community solar"). District Government will also use financial incentives, research and education, and maximize existing programs to help install solar panels and solar thermal systems throughout the District. For example, the program Solar for All provides solar energy to households of low income, helping to reduce their energy bills by 50%. Additionally, the District's Renewable Portfolio Standard requires that 5% of all the renewable energy supplied to the District by 2032 come from locally generated solar.

Timeframe: Long term

Lead: DOEE

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Timeframe: Long term

Lead: DOEE

EN2.3: Provide residents with renewable energy by default, sourced from regional wind and solar farms by 2023.

Right now in the District, all residents have the option to purchase electricity generated from renewable energy, as opposed to electricity generated by fossil fuels. The increase in demand for renewable electricity has helped propel growth in the supply of renewable electricity, and the region overall is moving away from energy generated from dirty fossil fuels, and towards energy that doesn't create harmful greenhouse gases or air pollution. While residents should have the option to choose how their energy is generated, switching the default to clean energy makes it much easier for residents to get their energy from renewable sources.

Timeframe: Medium term

Lead: DOEE

EN2.4: Expand the use of renewable sources of heating and cooling.

When we typically think about the renewable energy we use in our daily lives, we're thinking about electricity that was generated by wind or solar and distributed to our homes. But renewable thermal energy such as ground-source heat pumps, heat from wastewater, and biogas (gas created by the decomposition of organic material), can also be used to heat and cool spaces directly, replacing fossil fuels like natural gas. District Government will support and incentivize the use of renewable energy in heating and cooling technologies to make use of these underused renewable resources right here in the District.

Timeframe: Ongoing

Lead: DOEE

Partner: DGS, OCTO, OP DDOT

Goal 3: Modernize energy infrastructure for improved efficiency and resilience.

Target 3: By 2032, 100% of residents live within walking distance of a facility offering clean backup power to serve critical needs during power outages.

EN3.1: Use smart meters and smart grid infrastructure to collect data on electricity use.

Smart meters and smart grid infrastructure help individuals and organizations like the DC Sustainable Energy Utility (DCSEU) understand where improvements to buildings could be most effective, because these "smart"

systems are able to provide information about when and how a building uses energy. District Government will collect and use the most accurate and detailed energy data, and make it possible for residents and businesses to access and control their own data. This way residents and government can take advantage of smart meters and other smart infrastructure that already exist throughout the District and make the most effective improvements possible to our buildings, and reduce costs by managing our energy use better.

Timeframe: Ongoing

Lead: DOEE

Partner: DGS, OCTO, OP, DDOT, OPC

EN3.2: Improve the reliability and resilience of the transmission and distribution of electricity, using smart grid technologies and distributed energy resources.

The District imports nearly all of its electricity, meaning that heat waves, severe weather, or other malfunctions in the region can cause power outages. To limit the impact of area-wide power outages, the District Government will improve the reliability and resilience of electricity delivery (including transmission and distribution) by developing and supporting distributed generation, smart grid technologies, and energy storage. Distributed generation technologies like solar power generate electricity close to where it'll be used. Smart grid technologies help reduce the number of residents impacted by outages as well as helping restore power quickly after outages. Energy storage, like batteries, provide back-up sources of power, which help ensure that District residents and businesses can bounce back quickly after power outages.

Timeframe: Medium term

Lead: DOEE

Partners: OCTO, OP, DDOT, OPC

EN3.3: Remove all barriers to modernizing electricity infrastructure to enable the deployment of neighborhood-scale energy systems and distributed energy resources.

Creating a modern energy system that allows for neighborhood-scale systems and recovers quickly after disruptions will require addressing regulatory, political and physical barriers. Neighborhood-scale systems combine renewable energy sources, energy storage, and the management of electricity demand, all at a local scale that considers the specific needs and energy consumption patterns of the community. District Government will remove barriers to electricity infrastructure modernization, allowing neighborhoods to cut costs, help the environment, and recover quickly or prevent power outages completely.

Timeframe: Medium term

Lead: DOEE

Partners: OCTO, OP, DDOT, OPC

EN3.4: By 2020, complete and begin implementing a neighborhood-scale energy system development plan to target high load growth areas and at risk communities.

When an area has high electricity demand, it increases the likelihood of a power outage as residents and businesses draw large amounts of power at the same time (like during heat waves when everyone runs their air conditioning). To avoid this scenario, District Government will launch a project to identify and improve the energy resilience of these high load growth areas, paying particular attention to areas where residents may be more sensitive to outages. To improve energy resilience, the District Government will explore the development of neighborhood-scale energy systems (using technologies like microgrids) tailored for the specific needs of the community.

Timeframe: Short term

Lead: DOEE

Partner: OP, OPC

FOOD

Despite the District's growing economy and efforts to increase healthy food access, more than one in ten residents have difficulty accessing healthy, affordable food.[4] Further, at least one in five children live in households without consistent access to the healthy food they need to grow and thrive. Disparities in food access and diet-related chronic diseases persist. These differences across resident populations matter—research shows that a healthy diet can alleviate risk for chronic diseases like diabetes[5], help children learn and behave better in school[6], and improve overall quality of life outcomes[7].

The District's food system contributes $5.47 billion to the local economy. Residents shop for their weekly groceries at 55 grocery stores, 67 healthy corner stores, and 38 farmers markets as well as other retailers like online delivery services. They also get their hands dirty in the 63 community and 127 active school gardens. District government established the DC Food Policy Council and created a position to track and advise on food policy matters. DC Council has championed legislation providing grocery store development incentives, making public land available for commercial urban farms, and improving quality and nutrition of school meals. Other existing citywide programs, like Produce Plus or the Produce Prescription program, continue to expand and help healthy food access grow at farmers markets across the District.

SDC 2.0's actions on food have real-world benefits for the city at all levels:

Individual: Eating healthy food can help you and your family stay active and well. Research shows that a nutritious diet can alleviate risk for chronic diseases like diabetes[8], help children learn and behave better in school,[9] and improve quality of life outcomes.[10]

Neighborhood: When neighborhoods are full of community gardens, residents have lower levels of depression.[11] When farmers markets promoting fresh and regional agriculture are made accessible to everyone,

4 https://www.ers.usda.gov/webdocs/publications/84973/err-237.pdf?v=42979
5 http://frac.org/wp-content/uploads/hunger-health-impact-poverty-food-insecurity-health-well-being.pdf
6 http://www.frac.org/wp-content/uploads/breakfast-for-behavior.pdf
7 http://frac.org/wp-content/uploads/hunger-health-impact-poverty-food-insecurity-health-well-being.pdf
8 DC Food Policy Council https://dcfoodpolicy.org/
9 http://www.frac.org/wp-content/uploads/breakfast-for-behavior.pdf
10 http://frac.org/wp-content/uploads/hunger-health-impact-poverty-food-insecurity-health-well-being.pdf
11 https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2688343

more residents eat healthier and local farmers are supported.[12] Local healthy food access is a win-win for everyone.

City: The District's food system contributes $5.47 billion to the local economy. Approximately 9.2% of the District's workforce (more than 80,000 residents) are employed within the food economy. Simply put, it makes good business sense to prioritize strengthening the local food system and fostering the inclusion of all the District's residents.

Goal 1: Expand agricultural uses and production within the District.

Target 1: By 2032, put 20 additional acres, including public right of way, under cultivation for growing food.

FD1.1: Implement the Urban Farming and Food Security Act and expedite the process to make public and private lands available for a variety of urban agriculture uses, including community agricultural projects.

Through the coordination of the Department of General Services (DGS) and other agencies, the Urban Farm Program identifies available public and private land and leases parcels for urban farms to District residents. While progress has been made in developing the program and the application process, there are no current urban farms created under this process, so District Government will work with partners to ensure that those seeking land for farming can participate in the program.

Timeframe: Short term

Lead: DGS

Partner: DOEE, DCFPC, OP, DDOT, DCRA, DPR, DC HEALTH, EOM

FD1.2: Develop orchards or other food-producing landscaping on five acres of District public spaces distributed throughout all eight wards.

Developing orchards and other food-producing landscaping contributes to both the tree canopy and food production in the District. While 1.7 acres of District public space currently contain orchards and other food producing landscapes, many opportunities such as public right of way, parks, recreation centers, and schools remain. However, it will be important to work with the community around potential site to ensure residents would like to see urban agriculture, and what variety.

Timeframe: Medium term

Lead: DGS

Partner: DOEE, DDOT, DPR, DCFPC, OP

12 https://farmersmarketcoalition.org/education/farmers-markets-support-healthy-communities/

FD1.3: Leverage school gardens to engage students in garden-based learning.

The benefits of school gardens are well documented, including providing educational opportunities for children to better connect with their food system, and learn about environmental sustainability, nutrition, and health. The Office of the State Superintendent for Education, DC Public Schools, and the District Department of Energy and the Environment, will leverage new and existing school gardens to provide at least ten hours of garden-based learning to public and charter students.

Timeframe: Short term

Lead: OSSE

Partner: DCPS, DOEE, DGS

Goal 2: Ensure that all residents have access to affordable, quality, and nutritious food.

Target 2: By 2032, ensure that 75% of residents live within a quarter mile of a quality full-service grocery store, with a focus on underserved communities.

FD2.1: Analyze existing incentives and implement the most effective and innovative policy approaches for recruiting quality, full service grocery stores to underserved areas.

Despite existing economic incentives intended for the development of new quality, full service grocery stores in underserved areas in the District, particularly Wards 7 and 8 continue to have an inadequate number of grocery stores. Through collaboration with the DC Food Policy Council and the District's Grocery Ambassador designated through the 2010 FEED DC Act, District Government will examine the existing incentives provided thus far for grocery store development and determine and implement? The most effective and innovative policies needed to attract full service grocery stores to these areas.

Timeframe: Medium term

Lead: DCFPC, OP, DMPED

Partner: DSLBD

FD2.2: Provide financial support and technical assistance to small retailers, mobile farmers markets, and food vendors to expand healthy food options for neighborhoods with limited access to fresh and healthy foods.

In partnership with the Department of Small and Local Business Development (DSLBD) and local nonprofits, District Government will launch a pilot program providing financial and technical support for small retailers, mobile farmers markets, and food vendors to serve healthy food. While these innovative models are not substitutes for full grocery stores, they can provide short-term opportunities for residents to access healthy food.

Timeframe: Short term

Lead: DSLBD

Partner: DC HEALTH

FD2.3: Expand and promote community food benefits programs to grocery stores, farmers markets, and corner stores citywide.

In addition to supporting the expansion of community food benefits in the District, District Government will facilitate the expansion and use of those benefits in diverse retail settings. Supplemental benefits such as Produce Plus and Produce Prescription programs are currently accepted in farmers markets, but innovative programs in grocery stores and corner stores will help increase the healthy food options for low-income residents.

Timeframe: Medium term

Lead: DC HEALTH

Partner: DSLBD

FD2.4: Support nutrition education efforts across all populations that help residents make healthier choices.

Even with increased access to healthy food, consumers will need education and tools to make healthy choices. District Government will enhance education of consumers through improved public awareness campaigns and educate restaurant owners on best practices related to food nutritional awareness like menu labeling Partnerships with nonprofits conducting nutrition education will enhance the reach and understanding of residents on how to use these new tools to make healthier choices.

Timeframe: Short term

Lead: DC HEALTH

Partner: DCFPC, OP, DSLBD

FD2.5: Implement the Nutrition Education Plan to ensure that nutrition education is as comprehensive as possible and nurtures students' healthy eating habits.

The Nutrition Education Plan is a guide that will be used by OSSE when developing nutrition education related programming for schools and providing technical assistance. Goals and objectives of the plan will be used to set requirements included in nutrition-related OSSE programs such as the Nutrition Education and Physical Activity Grant. CBOs, District agencies, schools, universities, and others interested in enhancing the quality and quantity of nutrition education delivered to District students are strongly encouraged to be part of the plan by fulfilling and/or participating in the actions outlined within the plan.

Timeframe: Medium term

Lead: OSSE

Partner: DCPS, DCFPC, OP

Goal 3: Develop and support the food industry as a vibrant and equitable sector of the local economy.

Target 3: By 2032, expand the food sector of the economy by 2%.

FD3.1: Complete a comprehensive study of the District's food systems and outline opportunities for growth.

As required in the DC Food Policy Council and Director Establishment Act of 2014, the DC Food Policy Council will continue to conduct an annual analysis of the District's food system. The report will include an assessment of the food-related policies, programs, and emerging trends within the District and provide recommendations to address opportunities for equitable and inclusive growth of the food system, which contributes $5.5 Billion to the District economy.

Timeframe: Ongoing

Lead: DCFPC, OP

FD3.2: Collaborate regionally on the creation of a local food hub for consolidation, processing, and distribution of local food products.

Along with existing partners like the Metropolitan Washington Council of Governments (MWCOG) and regional nonprofits, District Government will support the creation of a local food hub within 100 miles that will expand the accessibility of local grown products directly to food retailers and consumers. The food hub will catalyze the procurement of local food through the coordination and aggregation of smaller farmers, processors, and distributors.

Timeframe: Medium term

Lead: DMPED, EOM

Partner: OP, DCFPC

FD3.3: Develop policies encouraging the purchase of locally grown produce by government and institutions.

To develop and support the local food economy, District Government will develop policies and invest in procuring locally grown, processed, and distributed food. The District's institutions will leverage their purchasing power to increase the demand for local food from within the city and the surrounding region and support farmers in supplying the District and region with local and fresh food.

Timeframe: Medium term

Lead: DCFPC, OP

Partner: DCFPC, OP

FD3.4: Coordinate business, workforce development, and education stakeholders to better match job training opportunities for District residents with the food sector's needs.

Through the DC Food Policy Council, District Government will convene leaders from across the food economy to create a strategy for matching the needs for skilled workers to established workforce development programs. Currently, there is simultaneously unmet demand for skilled workers throughout the food industry and high unemployment for segments of the District's population.

Timeframe: Medium term

Lead: DCFPC, OP, DOES, WIC

Partner: DOES, DSLBD, DMPED

FD3.5: Ensure that DCPS and Public Charter Schools food procurement prioritizes healthy and local items.

Nutritious school meals help students learn and grow, and local food in schools ensures all students benefit from fresh, better tasting food that also is good for the environment. The Office of the State Superintendent of Education (OSSE), in partnership with DC Public Schools (DCPS) and public charter schools, will work to ensure all school meals meet established nutrition guidelines in the District's Healthy Schools Act and federal school meal standards. Further, OSSE, DCPS and charter school leadership will work to advance innovative nutrition and local procurement policy.

Timeframe: Medium term

Lead: DCPS

Partner: OSSE

Goal 4: Reduce food waste by donating usable food and composting unusable food.

Target 4: By 2032, reduce wasted food by 60%.

FD4.1: Conduct a wasted food assessment to identify the types and quantities of food that are thrown away in the District.

Understanding the makeup of our food waste is the first step in better addressing the amount of waste food. To do this, District Government will examine food waste in the District's households and businesses, building off initial research used for the 2017 District-wide compost feasibility study to pinpoint baseline levels of different types of food thrown away. This assessment will be used to develop recommendations on the current waste system to reduce unconsumed food waste.

Timeframe: Medium term

Lead: DPW

Partner: DCFPC, OP

FD4.2: Educate businesses and institutions on food recovery opportunities and liability protections.

District Government will work with nonprofit and private partners to inform them of existing District and federal policies protecting food recovery efforts. While these policies have existed for several decades, information gaps remain regarding liability protections and best practices. District Government will also facilitate efforts to recover food in the public, non-profit, and private sectors such as the Food Recovery Working Group.

Timeframe: Medium term

Lead: DPW, DPR

Partner: DOEE, DCFPC, OP, OAG, ORM

FD4.3: Promote food donations by businesses, schools, and institutions through policy changes.

District Government will promote food donations from various institutions by providing incentives through promising legislation such as the "Save Good Food Act" and information on best practices. District Government will help coordinate opportunities for enhanced connections between institutions providing and institutions receiving the food donations.

Timeframe: Medium term

Lead: DME, DSLBD

Partner: DCFPC, OP, DPW, DCPS, OCTO

FD4.4: Educate residents and food related businesses on proper buying, storage, and disposal of food to minimize waste.

Properly storing food can preserve the freshness and safety of food, meaning residents can save on their grocery bill while also preventing good food from being thrown away or composted. In partnership with community groups such as the DC Food Recovery Working Group, District Government will create awareness of best practices for minimizing food waste in households and food-related businesses. Potential activities could include demonstrations at community locations such as grocery stores and farmers markets, or public awareness campaigns. Further, District Government will work with community partners such as nutrition education providers to educate consumers about how to better read and use "sell by" and "use by" labels.

Timeframe: Medium term

Lead: DC HEALTH

Partner: DCFPC, OP, DPW, DPR, DSLBD, DCPS

HEALTH

One of the District's most important resources is the health of its residents, and DC is consistently ranked at the top of the country's healthiest and fittest cities. Yet significant disparities in health exist along the lines of race, income, and geography. For example, residents in Ward 8 are four times as likely to have diabetes as compared to residents in other Wards in the city, and black residents are almost 2.5 times more likely to have heart disease than white residents. Depending on which Ward you live in, your life expectancy can vary by up to ten years. Further, many District residents suffer from the negative effects of air pollution, lack safe places to exercise, and are disproportionately at risk for chronic diseases such as diabetes and heart disease. Climate impacts, like asthma and heat-related injuries, further compound these issues and often fall disproportionally and unfairly on low-income populations.

Building a culture of health means thinking beyond hospitals and clinics as the main sources of our personal well-being. Good health for ourselves and our families starts in our homes, schools, workplaces, neighborhoods, and communities. Sustainable DC 2.0 builds upon the District's previous planning work, including Healthy People 2020, the Comprehensive Plan, the Health Systems Plan, and Age Friendly DC, all of which are clear about the connection between health and having accessible, safe places to work, play, and move. To effectively address health disparities among populations, we must focus on factors like education, employment, income, housing, transportation, the food environment, preventative medical care, the outdoor environment, and community safety. Differences in the quality of these factors across the city result in racial and economic segregation, concentrated poverty, and dramatic differences in life expectancy. By pinpointing actions to address these drivers, we have an opportunity to alleviate differences in health outcomes and achieve greater health equity for all residents.

SDC 2.0's actions on health have real-world benefits for the city at all levels:

> ***Individuals:*** The daily choices you make, such as how to get to work or whether to spend time outdoors, all impact your personal wellness.

Neighborhoods: Growing an inclusive city means creating access to opportunity in all neighborhoods, including safe and welcoming places for outdoor recreation, as well as leveraging shared social responsibilities to address inequities.

Citywide: All residents should have the opportunity to make healthy and informed choices—including the ability to live active lifestyles—in neighborhoods where preventable health risks are eliminated.

Goal 1: Provide residents with resources to achieve healthy, active lifestyles, regardless of income, ability, employment, or neighborhood.

Target 1: By 2032, 65% of residents get at least 150 minutes per week of physical activity.

HW1.1: Collect data at parks and recreation centers, particularly in areas of low-use and low income, to improve planning and programming decisions.

Improved data collection will allow the District and its partners to plan for a healthier and more active community. More robust data will help improve facilities usage and participation measurement, master planning, capital investment decisions, the measuring of facilities usage and participation, and programming decisions.

Timeframe: Short term

Lead: DPR

Partner: DGS, OP, DC Health, OCTO

HW1.2: Prioritize community-driven strategies to support physical activity in unexpected but everyday spaces across the District.

Childhood play is essential to physical, cognitive, creative, social and emotional development. However, many children face barriers to play, such as a lack of safe spaces—either perceived or actual. District Government and its partners will provide additional opportunities for play in everyday locations where kids and families already spend time, including bus stops, in grocery stores, or on sidewalks.

Timeframe: Medium term

Lead: DDOT, DPR

Partner: OP, CAH,

HW1.3: Design parks, open spaces, and recreational facilities to reflect the resident preferences and culture of the local population, and to accommodate a range of age groups and abilities.

District Government will engage local communities through community partnerships and non-governmental organizations in the planning and design process to ensure park amenities match resident preferences and culture.

Spaces will be designed with universal design principles—all people who use a public space will feel welcome, respected, safe, and accommodated, regardless of who they are, where they come from, their abilities, how old they are, or how they use the space.

Timeframe: Long term

Lead: DPR

Partner, DGS, OP, DC Health, DBH

Goal 2: Provide high quality, safe, and sustainable places to be healthy and active

Target 2: By 2032, identify and eliminate disparities in the quality of the built environment contributing to disparate health outcomes across the District, particularly for disinvested communities.

HW2.1: Complete a new feasibility study—with a focus on the intersection between the built environment and health—to define differential quality metrics and to understand the social, environmental, and economic barriers to healthy outcomes specific to the District.

Providing opportunities to engage in healthy lifestyles is only the first step towards ensuring a healthier and more active community. By first recognizing the barriers that prevent people from making healthy decisions such as environmental issues, social or cultural constraints, and/or economic factors such as affordability, the District Government will have a better understanding of how to encourage healthier choices and improve outcomes. The baseline information (such as walkability, urban heat island, open space access) obtained from this study will allow the District Government to eliminate discrepancies in the opportunities for health in the built environment.

Timeframe: Short term

Lead: OP, DC Health

Partner: DDOT, DOEE, DGS, DPR, DBH

HW2.2: Eliminate the human health impacts of contaminated sites in the District and identify areas where new authority is required.

The ability to reduce the health risks created by asthma and exposure to lead and other toxic substances is linked to curbing local and regional pollution emissions, remediating contaminated soils, and to making sure homes are free from mold, allergens, and other indoor hazards. The District Government will evaluate potential new policies and mechanisms for addressing these challenges.

Timeframe: Long term

Lead: DOEE

Partner: DC Health

HW2.3: Improve public safety through the development and implementation of resident-driven design, pro-

gramming, and maintenance of streetscapes, parks, and other public spaces.

Spaces designed to be defensive and uncomfortable to certain groups often become unwelcoming to everyone. The District Government and its partners will engage stakeholders to shift the emphasis from defensive public space design approaches that limit interaction, (which might include elements like fencing, walls, or uncomfortable benches), to welcoming design approaches that increase opportunities for social activity.

Timeframe: Medium term

Lead: DPR, OP, DDOT

Partner: DGS, MPD

HW2.4: Support policies and practices that prevent street harassment.

The perception of safety is equally important to the reality of safety. Both are required ingredients for people to be able to be physically active outdoors. The Street Harassment Prevention Act of 2017 is intended to raise awareness of, and educate the public on, street harassment and let victims know the resources that are available to them. Specifically, the District Government will focus efforts where harassment is most common such as public transportation, schools, sidewalks, parks and other public spaces.

Timeframe: Short term

Lead: MPD

Partner: DDOT

HW2.5: Audit and eliminate environmental health threats (mold, lead, and carbon monoxide) in 100% of the District's public housing.

The Healthy Homes Program led by the District Department of Energy and Environment (DOEE) targets households with children suffering from severe asthma or with a blood lead concentration of concern as well as older properties in poor condition where a young child or pregnant woman are present. The District Government's Lead Safe Washington program provides funds from the Department of Housing and Community Development (DHCD) to identify and reduce lead-based paint hazards in low income homes. District Government will work with the DC Housing Authority to reduce these threats in all District public housing.

Timeframe: Long term

Lead: DCHA

Partner: DOEE, DHCD

HW2.6: Coordinate citywide services to minimize the injury rate associated with extreme cold and heat temperature days.

Exposure to temperatures much hotter or colder than those to which the population is accustomed can make residents more vulnerable to illnesses and death. District Government will work to ensure that residents can prepare

for these events by more broadly communicating extreme heat and cold response plans that clearly define specific roles and responsibilities of government and nongovernmental organizations before and during these events. Plans should identify local populations at high risk for extreme temperature related illness and death and determine the strategies that will be used to support such individuals during emergencies, particularly in disinvested communities. Further, District Government and its partners should explore strategies, including the use of technology, to engender feelings of trust and compassion amongst communities and community members before, during, and after extreme temperature days.

Timeframe: Short term

Lead: HSEMA, DC Health

Partner: DOEE, OP, DPR, DDOT, DGS, DC FEMS, DHS, DPW

Goal 3: Improve population health by addressing the social and structural determinants of health.

Target 3: By 2032, 100% of multi-sector initiatives in the Sustainable DC plan promote population health and equity by taking health implications of decisions systemically into account.

HW3.1: Evaluate pre-development Health Impact Assessments as a tool for promoting health through new policies, practices, developments and renovations.

Health Impact Assessments (HIAs) are a useful tool to measure the potential impacts of a change to the built environment on the population. District Government will evaluate whether HIAs are an appropriate tool to help the city's residents, decision makers, and practitioners make choices that improve public health through community design.

Timeframe: Medium

Lead: DC HEALTH, OP

Partner: DOEE

HW3.2: Support public-private partnerships to develop coordinated community health needs assessments and improvement plans to promote population health.

District Government will work with stakeholders to ensure that hospitals have the information they need to provide *community* benefits that meet the *needs* of their communities. Hospitals should consider strategies that improve air quality by reducing hospitals' energy consumption; mitigate threats from toxins by expanding alerts in hospital-information and quality-control systems; increase health literacy by integrating into patient and community decisions the local health impacts of climate change; and share data and analyses with planners for health-impact assessments of parks and trails to decrease obesity.

Timeframe: Short term

Lead: DC Health, OP3

Partner: OP, DPR

HW3.3: Develop and implement a "healthy community design" checklist for all new affordable housing projects and major retrofits.

Healthy by Design programs provide guidance of the planning and design of communities that make it easier for people to live well. Healthy community design links traditional concepts of planning (such as land use, transportation, community facilities, parks, and open space) with health priorities (such as physical activity, public safety, healthy food access, psychological health, air and water qualities, and social equity issues).

Timeframe: Short term

Lead: DHCD

Partner: OP, DOEE, DC Health, DDOT, DPR

HW3.4: Launch a comprehensive multi-level health literacy campaign across the District.

Health literacy is the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions. The District and its partners will work to ensure that health information and services (health insurance literacy, health systems literacy, and health behaviors literacy) can be understood and used by all residents and they are able to access the right care at the right time in the right place.

Timeframe: Short term

Lead: DC Health

Partner: DBH

HW3.5: Increase public awareness campaigns concerning how to prevent bites and control diseases spread by mosquitoes, ticks, and fleas in their communities.

Vector-borne diseases (VBDs), such as Lyme disease and Zika, remain major threats to human health and well-being**.** Rising global temperatures can lengthen the season and increase the geographic range of disease-carrying insects. District Government will continue to study the impact of climate change on VBDs and increase efforts to raise public awareness and encourage prevention of VBDs.

Timeframe: Ongoing

Lead: DC Health

Partner: DOEE

NATURE

The District's population is rapidly growing. With an average of 800 new residents moving to the District each month[13], we must balance population growth and development with the conservation and management of natural resources. Despite being a highly urban area, the city includes over 6,700 acres of National Park land and 900 additional acres of city-owned parks.[14] Since so much of the District's park land is federally protected, DC works closely with the National Park Service and other federal landowners. The District is also home to two tidal rivers, the Potomac and the Anacostia. These waterways provide valuable habitat for wildlife, including nesting bald eagles, newly restored populations of American shad (DC's official state fish), and the Hay's Spring amphipod (a tiny shrimp-like crustacean that is only found in DC). Beyond the threats of urban development, extreme heat and weather events caused by climate change are also impacting the District's natural environment. Restoring, expanding, and protecting natural habitats in the District improves our air and water quality, helps manage stormwater, plays a critical role in safeguarding our biodiversity, and protects the city against the urban heat island effect, floods, and other impacts of climate change.

Despite being a highly urban area, the Trust for Public Land recognized the District as having the third highest-ranking park system in the country.[15] The District is committed to protecting our natural areas while also providing all residents convenient access to nature and green places. In 2016, Mayor Bowser signed important legislation, the Fisheries and Wildlife Omnibus Amendment Act of 2016, to help protect critical wildlife habitats and better manage invasive species. Within the District government, DOEE is responsible for the conservation and management of all species of wildlife and their habitats. The District's State Wildlife Action Plan, last updated in 2015, is a comprehensive, ten-year roadmap for sustaining, conserving, and protecting the District's wildlife and habitats. In addition to this plan, the District's moveDC and Age Friendly DC plans also address access to green space.

SDC 2.0's actions on nature have real-world benefits for the city at all levels:

Individuals: SDC 2.0 aims to protect and restore the District's natural environment and to create more

13 From DC Office of Planning's State Data Center for the period of 2016-2017.

14 Wildlife Action Plan, https://doee.dc.gov/sites/default/files/dc/sites/ddoe/service_content/attachments/02%202015%20WildlifeActionPlan%20Ch1%20Introduction.pdf

15 https://www.tpl.org/media-room/trust-public-land-releases-2018-parkscore%C2%AE-index-ranking-park-systems-100-largest-us#sm.00003rklsp5jof40q0s1evrbkjekm

opportunities for residents to have better access to high quality green spaces such as trails and parks. By enhancing access to nature, residents can enjoy the benefits of parks and natural areas, through reduced stress and improved health.

Neighborhoods: SDC 2.0 is focused on strengthening access to the natural environment for neighborhoods across the District, with a particular emphasis of improving access to small parks and natural spaces in underserved areas of the city with less access to these resources currently.

Citywide: Actions in the Nature section of SDC 2.0 focus not only on protecting and restoring the District's unique natural environment, including our rivers, streams, and meadows, but also on expanding our tree canopy and creating new wetlands. SDC 2.0 seeks to weave the natural environment throughout the District's urban footprint by incorporating access to nature in the places where we live, work, and play.

Goal 1: Protect, restore, and expand aquatic ecosystems.

Target 1: By 2032, protect, restore, and create 1,000 acres of critical aquatic habitat.

NA1.1: Develop a Wetland Registry to facilitate restoration or creation of wetland habitat.

Wetlands—land consisting of marshes, bogs, vernal pools, swamps, and other similar areas—are among the most productive ecosystems and vital to the ecology of a healthy watershed. Wetlands provide a wealth of benefits to humans and play an important role in absorbing toxic chemicals, reducing flooding, and supporting diverse animal and plant life. Beginning in the early 1900s, the Army Corps of Engineers began dredging the Anacostia River and filled in wetlands during the process. Due to continued urbanization, an estimated 450 acres of marshes were filled for dumpsites and approximately 90% of tidal marshes along the Anacostia were lost. Approximately 289 acres of wetlands remain in the District. To better protect and restore the District's wetlands, District Government will create a Wetland Registry, a publicly available map of each wetland location and baseline data to facilitate avoidance of these limited resources and to identify wetlands that would benefit from restoration or enhancement. The registry will also identify potential locations for wetland creation that could be targeted for detailed site-specific suitability studies for mitigation.

Timeframe: Long term

Lead: DOEE

Partner: DPR, OCTO

NA1.2: Plant and maintain an additional 150 acres of wetlands in targeted Conservation Opportunity Areas.

To offset the negative environmental impacts of urbanization (the development of land), District Government will plant and maintain wetlands (land consisting of marshes or swamps) to help with overall water quality. These wetlands will be intentionally planned in Conservation Opportunity Areas—areas of the city which offer the best opportunity and potential for conservation in the District, as identified in the District's 2015 *Wildlife Action Plan*. By planting and maintaining an additional 150 acres of wetlands in these discrete areas, District Government will max-

imize the environmental impact of its work to protect, restore, and expand our waterways.

Timeframe: Long term

Lead: DOEE

Partner: DPR

NA1.3: Partner with developers to incorporate living shorelines in waterfront developments.

Developing land adjacent to waterways can increase flooding, erosion, sea level rise, and hurt aquatic habitats. One way to minimize these negative impacts is to construct living shorelines as part of waterfront developments. Living shorelines use native plants, trees, grasses, and other natural elements to stabilize a shoreline and help to minimize erosion along shorelines, reduce flooding, and will help the city become more resilient to sea level rise. By partnering with developers early in the planning process, more living shorelines can be incorporated into waterfront developments.

Timeframe: Short term

Lead: DOEE

Partner: OP

NA1.4: Reduce threats to 75 aquatic species of greatest conservation need.

In a highly urban area such as the District, the largest threats for aquatic habitats are urban wastewater, invasive species, nitrification/sedimentation, and ecosystem modifications. In support of the 2015 *Wildlife Action Plan*, the District Government is strengthening its existing actions to reduce threats to 75 aquatic species of greatest conservation need including the American shad and the Hay's Spring amphipod.

Timeframe: Long term

Lead: DOEE

Goal 2: Protect, restore, and expand land ecosystems.

Target 2: By 2032, restore, protect, create, or improve 2,000 acres of critical land habitat.

NA2.1: Plant and maintain 10,500 new trees per year in priority areas to achieve 40% tree canopy cover by 2032.

Trees play a critical role in urban areas, including reducing flooding, improving air quality, and reducing temperatures. While the act of planting trees is important, without proper maintenance, the trees won't flourish. District Government will plant and maintain 10,500 trees annually, and in addition will work with

communities to shape tree plantings in their neighborhoods so that residents have a voice in the process. Innovation and best practices in urban tree plantings, such as using suspended pavement systems, will be considered in the planning process. In order to prioritize tree plantings, District Government will identify areas that experience vulnerabilities to climate change such as areas prone to flooding, the heat island effect, and areas lacking sufficient coverage and shade.

Timeframe: Ongoing

Lead: DDOT

Partner: DOEE, DGS, DPR

NA2.2: Remove invasive plants on 500 acres of critical habitat based on a strategic management plan.

Invasive plants are plants that are not native to an area and colonize habitats, create habitat loss, exclude native plants from surviving, and reduce plant biodiversity. In support of the 2015 *Wildlife Action Plan*, District Government will develop a strategic management plan that addresses not introducing invasive species and prioritizes the removal of invasive plants from 500 acres of critical habitat.

Timeframe: Medium term

Lead: DOEE

Partner: DGS

NA2.3: Create or restore a minimum of 200 acres of meadow habitat.

Due to urbanization, meadow habit is destroyed and often replaced with buildings and manicured grass. Meadows are field habitats vegetated by grass and other non-woody plants (grasslands). Meadows are of ecological importance because they support a diversity of wildlife, including small mammals, birds, and reptiles. Healthy, productive, meadows are composed of highly diverse herbaceous plants native to the region. Creating and restoring 200 acres of meadow habitat is one of the most important conservation actions detailed in the 2015 *Wildlife Action Plan*.

Timeframe: Long term

Lead: DOEE

Partner: OP, DDOT, DGS, DPR, DCHA, DHCD

NA2.4: Incorporate biodiversity and the use of native plants in green infrastructure along roads and sidewalks.

Green infrastructure is an approach to water management that protects, restores, or mimics the natural water cycle. Green infrastructure includes practices such as rain gardens, trees, and permeable pavements. Green infrastructure captures rainfall, cools buildings and pavement, and creates natural pathways for wildlife. When designing green infrastructure projects such as rain gardens, District Government will prioritize biodiverse plant species, native and adaptive plants, and pollinators to maximize the benefits of these projects on the overall ecosystem. The

District's habitat connectivity map, developed by District agencies and partners, will be used to guide green infrastructure projects while working in tandem with surrounding jurisdictions. The map will be used to inform policy for integrating habitats and green space into future development projects throughout the District.

Timeframe: Short term

Lead: DOEE

Partner: DDOT, OP, DPR

NA2.5: Require District Government to use native or adaptive plants and trees in the landscaping of District property, green infrastructure, and restoration projects.

District Government will lead by example in only using native or adaptive plants, pollinators, and hardy trees in its landscaping projects, green infrastructure, and restoration projects. Both native and adaptive plants are plants that are hardier and less likely to succumb to pests and diseases. They also tend to need less water than non-native plants. The District will develop and maintain a public-facing directory of native or adaptive plants to aid in the process of selecting appropriate plants in projects.

Timeframe: Short term

Lead: DOEE

Partner: DGS, OP

Goal 3: Improve human access to and stewardship of the nature environment.

Target 3: By 2032, provide access to the natural environment or quality green space within a 10 minute walk of all residents.

NA3.1: Improve the formal trail network for hiking and biking – prioritizing areas east of the Anacostia River – while balancing protection of habitat.

Access to green space in an urban setting is vital to mental health. Expanding the network of trails, while protecting wildlife habitat, will aid in better connecting residents with green space and nature in the District. A priority should be given to connecting the trail network in areas east of the Anacostia River where trail connections are not as well developed as well as regionally integrating networks beyond the District's borders.

Timeframe: Medium term

Lead: DDOT

Partner: DPR, OP

NA3.2: Increase the number of "nature play spaces" at District playgrounds.

Nature play spaces incorporate the surrounding landscape such as logs, rocks, and water, to bring nature to kid's daily outdoor play areas. These nature play spaces are made from natural element, such as wood, and often include educational signage about the benefits of nature in play spaces. One example of a nature play space is at Yu Ying Public Charter School that uses fallen logs in a playground. Through these play spaces, children can benefit from connecting, playing and learning in nature.

Timeframe: Medium term

Lead: DPR, OSSE

Partner: DCPS, DGS

NA3.3: Create or improve small parks and natural spaces in underserved areas.

Not all neighborhoods in the District have convenient access to green space including small parks and natural spaces such as woods or meadows. Small parks and natural spaces need to be connected to the communities they serve. The District should prioritize creating or improving parks and natural spaces in underserved areas of the city without sufficient green space and ensuring that these natural spaces are connected to the neighborhoods and communities which they serve.

Timeframe: Short term

Lead: DPR

Partner: OP, DDOT, DOEE

NA3.4: Provide resources on backyard wildlife habitats, native plant gardening, container and vertical gardening, and creating pollinator habitats.

The District should make it easy for residents to beautify their yards and create valuable habitat for butterflies, bees, and other pollinators by providing accessible and informative guidance on how to start gardens. Pollinators are important because they transfer pollen between plants, which helps the plants, including trees and agricultural crops, reproduce and thrive. By equipping residents with the knowledge and skills for how to start a backyard garden or balcony with native plants, the District will be supporting more pollinators that are necessary for a healthy and diverse ecosystem.

Timeframe: Short term

Lead: DOEE

Partner: DPR, DC HEALTH

NA3.5: The District Government will incorporate nature into the places we live, play, and work, to reduce stress and improve health – biophilic design.

Biophilic design is simply incorporating nature – plants, water, light, etc. – into our manmade spaces such as our homes and offices. For example, having indoor plants, fountains, and large windows in office buildings help connect employees to the natural environment while working indoors. By incorporating more traditionally natural elements into the built environment, the District Government will lead by example in its own projects and promote overall wellbeing and productivity and improve the mental health of residents. The District will also provide resources and guidance to other entities seeking to incorporate biophilic design into their current or future projects.

Timeframe: Medium term

Lead: DOEE

Partner: DGS

TRANSPORTATION

We rely on the District's transportation system every day to get where they need to go—to work, to school, to see family and friends—and to connect to what they need—food, healthcare, and nature. The District, more so than most cities, puts enormous strain on its transportation system. The District's population is approximately 700,000, but grows by almost 80% during the weekday with commuters traveling from as far away as West Virginia and Delaware to their DC work places. This enormous influx of people results in serious traffic congestion. The District has the sixth worst traffic congestion in the country with an average of 11 percent of driving time spent in congestion. While buildings are the main source of greenhouse gas (GHG) emissions in the District, 22 percent of emissions come from transportation, making it the second largest source. While many residents and workers enjoy convenient access to high quality sidewalks, bike lanes, and trails, access is unequal. Further, decades of deferred maintenance on Metro has resulted in very expensive and inconvenient work to get us back to a state of good repair.

An efficient, safe, and convenient transportation system isn't just for people though. It fuels our economy through increased productivity, better supply chain management, and access to new workers and markets. Though troubled, the District is lucky to have one of the best transportation systems in the country. According to recent rankings, the District has the fourth best transit system, is the seventh most walkable, and the sixth most bicycle-friendly city in the United States. It takes a lot of infrastructure to keep our city moving though. In our 69 square mile city, there are 1,100 miles of streets, almost 1,500 miles of sidewalks, 83 miles of bicycles lanes, 241 bridges, 16 tunnels, and 270 Capital Bikeshare stations. Sustainable DC offers four goals and 19 actions to help improve our transportation system. District Department of Transportation (DDOT)'s moveDC plan is the District's comprehensive transportation plan and Vision Zero is the plan to eliminate transportation-related deaths. Clean Energy DC offers additional strategies for reducing emissions for our transportation sector.

SDC 2.0's actions on transportation have real-world benefits for the city at all levels:

Individual: Walking or biking to work—even if just part of the way—is one of the best ways to incorporate exercise into your daily routine. Just 30 minutes of walking—a 15 minute commute each way—is enough to reduce your risk of diabetes and high blood pressure.

Neighborhood: Walkable neighborhoods can support more local businesses because stores clustered in

one area encourage customers to spend more money at multiple stores in the same area.

City: Traveling by public transportation is 10 times safer per mile than traveling by automobile. We each reduce the chance of being in an accident by more than 90% simply by taking public transit as opposed to commuting by car.

Goal 1: Improve connectivity and accessibility through efficient integrated and affordable transit systems.

Target 1: By 2032, increase use of public transit to 50% of all commuter trips in all wards.

TR1.1: Complete a high capacity transit study on high capacity corridors.

High capacity transit like bus rapid transit can provide the level of convenient, high capacity rapid transit (like Metrorail or DC Streetcar) at a much lower cost. Successful systems like Cleveland's Healthline typically have dedicated bus lanes, stations spread further apart, and longer buses that often feel more like trains. By better understanding which high capacity corridors are the best candidates and what it will take to make most successful, District Government will be in a good position to start building high capacity transit corridors to better serve residents not currently within walking distance (1/4 mile) of Metro or DC Streetcar.

Time frame: Medium term

Lead: DDOT

TR1.2: Improve transit connections to employment and activity centers from underserved areas.

To provide quality, convenient transit access to underserved areas – particularly new activity centers east of the Anacostia such as MLK Gateway, Skyland, and St. Elizabeths – District Government will prioritize connecting areas of the city east of the river not currently within walking distance of rapid transit with quality, direct connections to employment and activity centers.

Time frame: Medium term

Lead: DDOT

TR1.3: Define and secure permanent funding for transit planning and improvements.

Because transportation infrastructure investments are costly and take several years to complete – especially hard rail infrastructure like Metrorail – the District needs a consistent, reliable source of funding to keep long-term projects moving. The District, together with transit partners, will create and implement a strategy for securing necessary funds to appropriately maintain and improve transit in the District and region. In a landmark step towards completing this action, the District Council passed the *Dedicated Funding for the Washington Metropolitan Area Transit Authority Emergency Act of 2018* to provide the District's full $178.5 million share in new, dedicated, and bondable funding for Metro. Maryland and Virginia also committed their share to meet the full $500 million a year that Metro needs to operate and maintain Metrorail. Maintaining this commitment each year is the key to success

Time frame: Short term

Lead: DDOT

Partners: EOM

TR1.4: Develop design guidelines to ensure transit systems are resilient to extreme weather and climate change.

Unless action is taken, the effects of climate change on our transit system – buckling rail lines, cracked pavement, and traffic light outages – will mean moving around the District will become more frustrating, costly, and dangerous. The District will design, operate, and maintain our transit infrastructure for resilience against increased flooding, high heat, and severe storms in addition to making sure transit operates reliably in everyday conditions. One good example of such design guidelines is the New York Port Authority's 2015 guidelines to ensure that new agency infrastructure and buildings are designed to account for projected changes in temperature, precipitation, and sea level.

Time frame: Medium term

Lead: DDOT

Partners: DOEE, HSEMA, WMATA

TR1.5: Identify and remove the obstacles to families taking transit.

Many families with small children or who require strollers find using transit, particularly buses, difficult. By better understanding the specific obstacles making transit difficult for families, the District will be able to change policies or make physical changes to make riding transit convenient and safe for families. Changsha, China launched a Child Friendly City initiative, which included children in the design process to make transit more family friendly.

Time frame: Medium term

Lead: DDOT

Partner: WMATA

Goal 2: Expand safe, connected infrastructure for pedestrians and cyclists.

Target 2: By 2032, increase biking and walking to 25% of all commuter trips in all wards.

TR2.1: Develop and maintain a safe and convenient citywide 100-mile bicycle lane network.

The District currently has 83 miles of bicycle lanes, including nine miles of protected or separated bicycle lanes. However, many residents do not have convenient access to this network or do not feel safe biking with traffic on the street. District Government will expand the current system to a 100-mile connected and convenient bicycle lane network prioritizing neighborhoods east of the Anacostia River where bicycle infrastructure is currently

insufficient.

Time frame: Medium term

Lead: DDOT

TR2.2: Grow the Capitol Bikeshare program so that all District residents have access to a station within a half mile of their home.

The Capital Bikeshare program has been extremely successful with nearly 21 million rides since it launched in 2010. The system currently has 270 stations in the District and over 450 stations throughout the District, Maryland, and Virginia; however, some areas of the District don't have walkable access to this healthy and sustainable form of transportation. District Government will increase the system from its current 270 stations to 300 stations by 2020 with a focus on neighborhoods with the least access to the system now, including areas east of the Anacostia River.

Time frame: Medium term

Lead: DDOT

TR2.3: Partner with community organizations to increase bike and pedestrian safety education to drivers, cyclists, and pedestrians.

With increased rates of biking and walking come increased conflict between drivers, bikers, and pedestrians. District Government will develop new partnerships with community organizations—such as the Washington Area Bicyclist Association, the American Automobile Association, Metropolitan Washington Council of Governments —to provide more education to all three groups so everyone understands their role in creating a safe transportation environment for pedestrians and cyclists.

Time frame: Ongoing

Lead: DDOT

Partners: MPD, DMV

TR2.4: Collect data to improve understanding of cyclist and pedestrian travel patterns.

Without high quality data on bicycle and pedestrian travel patterns, it is difficult to plan for future users, allocate funding, or design and build new infrastructure. District Government will develop new methods of collecting this valuable data such as bike counters installed at popular bike routes like the Met Branch Trail and the 15th Street cycle track. District Government will also require access to data from private transportation providers, including dockless bike and scooter share programs, to better understand future program opportunities.

Time frame: Short term

Lead: DDOT, OCTO

TR2.5: Program crosswalks and traffic lights for improved safety and convenience of pedestrians, prioritizing children, older adults, and people with disabilities.

Traffic and crosswalk signals should be timed to provide adequate time for pedestrians – to safely cross the street, especially those with reduced mobility, such as children, older adults, and people with disabilities. District Government will analyze traffic lights to ensure safe and convenient travel for pedestrians, bicyclists, and vehicle traffic.

Time frame: Medium term

Lead: DDOT

TR2.6: Ensure sidewalks are in good repair on at least 90% of District streets, prioritizing new sidewalk construction in pedestrian priority areas such as schools, parks, transit stops, and retail corridors.

Around 24% of the District's linear streets are missing sidewalks on one of both sides of the street, while additional segments of sidewalks are in poor shape making it difficult to walk in some areas of the city, particularly in neighborhoods in Northwest and Southeast. In alignment with move DC (Pedestrian element Recommendation A-4), District Government will ensure existing sidewalks are in good condition and install new sidewalks and pedestrian infrastructure on at least 90% of streets currently lacking them, starting with pedestrian priority areas including those mentioned above.

Time frame: Medium term

Lead: DDOT

Goal 3: Enhance affordable, convenient transportation options to reduce dependency on single occupant vehicles.

Target 3: By 2032, reduce commuter trips made by car to 25%.

TR3.1: Encourage car-pooling and car-sharing.

Trips in gasoline-powered single occupancy vehicles (SOV) are the most polluting form of transportation, but some people do not have convenient access to transit or have the ability to walk or bike. . To accommodate people who need to drive, the District will make it more convenient and appealing for commuters to carpool (definition) or carshare (definition). The District will work with partners to strengthen regional programs like the Metropolitan Washington Council of Government (MWCOG)'s Guaranteed Ride Home and ridesharing matching programs could be expanded or marketed to encourage participation.

Time frame: Short term

Lead: DOEE

Partners: DDOT

TR3.2: Encourage private businesses to offer incentives to employees for transit, biking, and walking.

Eighteen percent of the District's greenhouse gas emissions come from private passenger vehicles, which are also responsible for a significant amount of traffic congestion in the city. District Government will work with businesses to develop a suite of incentives that private businesses can offer to their employees to encourage clean commuting, such as facilities for showering after biking or walking, bikeshare memberships or subsidized Metro SmarTrip cards offsetting the cost of walking shoes or bike repair, and financially compensating employees for not using parking spaces.

Time frame: Medium term

Lead: DOEE, DDOT

TR3.3: Work with the Washington Metropolitan Council of Governments to increase regional options to reduce single occupant vehicle (SOV) trips, including studying a regional congestion fee.

Many cities (for example London) have had success with downtown congestion fees that provide a stronger financial incentive to take transit or active transportation. However, based on past studies this approach is unlikely to work in the District without coordination with surrounding jurisdictions. A fee that targets commuters traveling into the District during peak rush hour could help with congestion, air quality, and greenhouse gas emissions.

Time frame: Medium term

Lead: DDOT, DOEE

Partners: OP

TR3.4: Develop a strategy in response to autonomous vehicles

Autonomous vehicles—or self-driving vehicles—are already in operation in many cities and will likely disrupt many of our current transportation systems and paradigms creating both new opportunities and challenges. In 2019, the District will complete a study of how autonomous vehicles will affect transportation in the District. The study will include impacts on congestion, transit, fleet storage and maintenance, parking and the use of public space.

Time frame: Short term

Lead: DDOT

Partners: DOEE, DPW

Goal 4: Reduce greenhouse gas emissions and air pollution from the transportation sector.

Target 4: Reduce greenhouse gas emissions from transportation by 60%.

Baseline: 2006

TR4.1: Strictly limit idling engines.

Cars, trucks, buses, and other motor vehicles are a large source of toxic air contaminants such as carbon monoxide, which contribute to asthma and other respiratory diseases. District Government will increase enforcement of existing anti-idling regulations (focusing on areas where idling often occurs like the National Mall and areas with high concentrations of vulnerable populations such children and the elderly), strengthen its engagement with bus and truck companies, incorporate citizen reporting, and increase its anti-idling marketing efforts.

Time frame: Short term

Lead: DDOT

Partner: DOEE

TR4.2: Require District Government to purchase green vehicles.

Since District Government procures its own vehicles, it has control over which vehicles to purchase creating an excellent opportunity to lead by example. District Government will require all agencies to purchase zero to low-emission vehicles (with a possible exception for special cases) and will prioritize placing vehicles that spend most of their time in one area (like police cruisers and buses) in areas with high concentrations of vulnerable populations (for example children, seniors, high rates of asthma).

Time frame: Medium term

Lead: DPW

Partners: DDOT, DOEE

TR4.3: Build system of electric vehicle charging stations throughout the city.

Electric vehicles (EVs) have a battery instead of a gasoline tank, and an electric motor instead of an internal combustion engine, which means they don't pollute out of their tailpipe. Despite the growing number of electric vehicles there is still limited infrastructure to charge EVs so District Government will facilitate the development of convenient, publicly accessible EV charging stations (for example in designated spaces on appropriate streets or in parking structures) and provide clear information on how to find them.

Time frame: Medium term

Lead: DOEE

Partners: DDOT, OP

TR4.4: Fully electrify District-controlled buses, and work with regional bus systems to reduce regional bus emissions.

While the Washington Metro Area Transit Authority owns most of the Metrobuses operating in the District, there is an opportunity for the District to electrify the DC Circulator, Metro Express service, and other bus systems as many of the DC Circulator and Metrobus Express service buses are already either partially or fully electrified, but

we can go farther. District Government will full electrify all District-controlled buses to eliminate tailpipe emissions from these large vehicles.

Time frame: Short term

Lead: DDOT, DPW

Partners: DOEE

WASTE

Human's "Take, make, waste" philosophy is increasingly unsustainable. The convenience of online shopping makes it easy to get caught in a constant cycle of buying new or better things, leading to us discard more than ever before. And our attention to where our waste goes and what happens to it has decreased. At home, we conveniently toss our items into curbside bins. Away from home, we may be faced with inconsistent or confusing messaging about how to sort our waste. Compounding our own waste burden is the District's location at the intersection of three jurisdictions and two shared rivers. We are running out of disposal options. To address our mounting waste challenges, we will have to reduce waste at the source.

Sustainable DC was the first pronouncement of the District's bold waste diversion goal: divert at least 80% of our waste away from landfill and incineration by 2032. In the five years since, there has been a sea of change in how we think about our discarded materials—not as trash but as potentially valuable resources. District Government created an Office of Waste Diversion within the Department of Public Works (DPW) which now publishes an annual waste diversion report. DC Council passed several significant new laws: banning the use of expanded polystyrene containers (commonly known as Styrofoam), banning electronics from our waste stream, and adding fees to the distribution of plastic bags. We have established programs for producers to take responsibility for old paint and used electronics and we celebrated the launch of a city-wide food waste composting drop-off program. Through an interagency effort, we launched Zero Waste DC and reduced confusion by establishing a universal list of recyclable and compostable items. Moving forward we are scoping out a comprehensive Zero Waste Plan that will examine the programs, initiatives, and plans that contribute to the diversion of waste in the District in relation to one another and in relation to our overall waste goal. The plan will tie together existing activities and inform the development and evaluation of further policies.

SDC 2.0's actions on waste have real-world benefits for the city at all levels:

Individual: Individuals have a role to play in reducing waste at its source by taking actions like eliminating single-use plastics and embracing reuse. Reducing waste at its source will mean less waste polluting the District neighborhoods, parks and waterways enhancing the desire for communities to make use of their community assets.

Neighborhood: Community priorities included a desire for clean, litter-free streets and access to clean and attractive green spaces.

City: Seeing our waste as a commodity can help grow the local economy by providing additional streams of income for local residents and providing materials for growing local enterprises. By separating the Dis-

trict's waste into identifiable clean waste streams that can be used in the manufacturing of new products, we can spur innovation in reuse to help create local businesses.

Goal 1: Reduce the volume of waste generated per capita in the District.

Target 1: By 2032, reduce per capita waste generation by 15%.

WS1.1: Develop a comprehensive Zero Waste plan with the objective of decreasing all citywide waste streams and achieving source reduction goals.

The Sustainable Solid Waste Management Amendment Act of 2014 requires the development of a Zero Waste Plan for the District. The development of such a Plan would tie together existing activities and inform the development and evaluation (including carbon impacts) of further policies so that the District can strategically achieve zero waste citywide, or 80% diversion of all solid waste from landfill and waste-to-energy.

Timeframe: Short term

Lead: DPW

Partner: DOEE, DPR, DGS, OP

WS1.2: Study the feasibility of an equitably priced collection billing structure (like Save-As-You-Throw).

The cost of residential waste management is equally shared amongst District households receiving DPW provided collection service regardless of the amount that each household generates. Establishing a Save–As-You-Throw system for DPW-serviced residents in the District would provide an incentive for residents to reduce the volume of waste generated and more appropriately and fairly charge residents for collection services. The pricing structure will minimize disproportionate impact on low-income communities.

Timeframe: Short term

Lead: DPW

Partner: DOEE

WS1.3: Expand current bans and fees on waste products like expanded polystyrene food containers and disposable bags.

Banning the use of expanded polystyrene containers (commonly known as Styrofoam) and adding fees to the distribution of plastic bags at the point of sale has been an effective means of decreasing the occurrence of these hard-to-recycle items in our waste stream. Expanding the polystyrene ban to include additional points-of-sale (supermarkets, big box retailers and suppliers) and increasing fees on plastic bags will bolster our efforts to keep these items out of the waste stream and serve as an incentive for the use or development of alternatives.

Timeframe: Medium term

Lead: DOEE

Partner: DPW, EOM

WS1.4: Work with surrounding jurisdictions to develop and implement a regional approach to reducing plastic waste.

The District sits at the intersection of three jurisdictions and two rivers. Goods (including plastics and items that eventually become plastic waste) flow freely into and out of the City carried not only by our waterways but by residents, commuters and visitors. Implementing District-specific initiatives will only go so far. Regional cooperation is required to insure that the policies and practices of the neighboring jurisdictions don't undermine our efforts.

Timeframe: Long term

Lead: DOEE

Partner: EOM, DPW

WS1.5: Enforce the required purchase of Environmentally Preferable Products and Services.

The District Government has an award-winning Sustainable Purchasing Program that provides resources to facilitate the purchase of Environmentally Preferable Products and Services (EPPS). The program, however, is sorely underutilized. Increasing the robustness of the program by making the resources more accessible, training more District employees on the use of the product specifications and making EPPS the default through our purchasing systems would increase the percentage of district purchases that conform to the EPPS requirements.

Timeframe: Short term

Lead: OCP, DOEE

Goal 2: Facilitate local reuse and recovery of materials to capture their economic and social value.

Target 2: By 2032, reuse 20% of all waste produced in the District.

WS2.1: Reuse or recycle 50% of all commercial construction waste.

While the District has experience rapid growth including the redevelopment of entirely new neighborhoods, the construction sector has not been accountable for their waste. Requiring the reuse or recycling of commercial construction waste creates a requirement that aligns with exiting green building codes.

Timeframe: Medium term

Lead: DOEE

Partner: DPW, DGS, DCRA

WS2.2: Reuse 5% of total non-hazardous residential building materials.

Over the last 5 years, the amount of residential construction and renovations has continued to increase. The Residential Technical Advisory Group [RESTAG] recommended a reuse standard for building materials that will begin to redirect building materials away from the waste stream. The plan is incorporating this action to be consistent with the standard and to set a minimum for diversion efforts. Providing more resources to assist small-scale residential developers and homeowners use recycled and salvaged building materials will help us achieve this action.

Timeframe: Long term

Lead: DOEE

Partner: DPW

WS2.3: Develop a greenhouse gas impact calculator for specific waste streams to support the development of a circular economy and guide further policy development.

As waste diversion policy evolves, decision makers need a method for weighing the impact of potentially competing approaches to waste minimization and diversion. Focusing on circularity (an economy that is restorative and regenerative by design) a calculator will help quantify the greenhouse gas impact and help us to design waste out of products and services.

Timeframe: Short term

Lead: DOEE

Partner: DPW

WS2.4: Support the development of a locally based, circular economy by facilitating the separation of waste into commodity streams.

Bringing circularity to local economies calls for the establishment if circular systems. By separating the Districts waste into identifiable and commodifiable clean waste streams to be used in the manufacture of new products, we help to spur innovation in reuse.

Timeframe: Short term

Lead: DOEE

Partner: DPW

Goal 3: Achieve zero waste citywide.

Target 3: By 2032, achieve 80% waste diversion citywide.

WS3.1: To increase residential waste diversion, provide households, whose waste is collected by DC Government, with three right-sized (e.g., larger compost receptacles) waste containers, easily identifiable for collecting compostable materials, recyclable items, and trash.

Discarded food and other organic, compostable material make up as much as 30 percent of the District's waste stream. On Earth Day 2017, the District launched the Food Waste Drop-Off program, which is now available in all 8 Wards. A residential, curbside, three-bin system will provide the most convenient point of disposal for food and yard waste and will increase the value of all materials collected at the curb. Right sizing curbside bins to reflect our waste diversion goals will enable increased recovery of valuable materials (recycling and compost) and support behavior change.

Timeframe: Medium Term

Lead: DPW

Partner: DOEE, DGS

WS3.2: Establish a new organics processing facility (composting, anaerobic digestion, or co-digestion pre-processing) in the District to capture food and other organic waste.

The District, and surrounding Maryland and Virginia counties, lack sufficient capacity/infrastructure to process a wide-range of organic materials. A 2017 compost feasibility study concluded that an in-District facility would be the most cost-effective and sustainable means of extracting the full value from organic materials. The facility would process organics via composting, anaerobic digestion, co-digestion pre-processing, or a combination of multiple options.

Timeframe: Medium Term

Agency: DPW

Partner: DOEE, OP, DGS

WS3.3: Increase the number of co-located (trash and recycling) receptacles that are publically accessible and bolster enforcement efforts, to ensure that commercially serviced businesses comply with the requirements to provide adequate on-site recycling options.

Ensuring opportunities to recycle, by increasing the number of disposal points in areas of the District will reinforce both the waste diversion messaging and behavior change that is needed for achievement of the citywide zero waste goal. District Government will expand recycling in District parks, recreation centers, and libraries as well as work with partners like Business Improvement Districts to increase the amount of public space recycling receptacles in retail/commercial establishments, multifamily buildings (common areas), and public spaces "street cans." Better enforcement of the requirement for all commercial and multifamily buildings to make recycling

available to residents and visitors and improvements to the enforcement labor force will increase commercial property diversion rates.

Timeframe: Medium term

Agency: DPW/BID Council

Partner: DOEE, OP, DPR, DCPL, OP

WS3.4 Aggressively enhance educational resources and outreach campaigns that educate residents, workers and visitors on waste minimization, recycling, and composting.

Creating new outreach and compliance assistance to reinforce both the waste diversion messaging and behavior change will create pathways for success. The District has a number of well thought out educational resource and initiatives. Developing additional creative methods for engaging residents with a particular focus on residents and communities that don't consistently engage with the sustainability community will broaden our reach and impact.

Timeframe: Medium term

Agency: DPW

Partner: DOEE, DPR, DCPL, OP

WS3.5 Expand the District's product stewardship program to include additional product streams.

The District is successfully implementing product stewardship programs for paint and electronics. The models from these programs are transferrable to other specific waste streams (i.e., pharmaceuticals, batteries, mattresses...etc.).

Timeframe: Medium term

Agency: DOEE

Partner: OP

WATER

The District is home to two tidal rivers, the Anacostia and Potomac Rivers, and 47 miles of shoreline[16]. While the District's waterways have started to make a remarkable comeback, our rivers are still in poor health. Poor water quality makes rivers and streams unsuitable for recreation, threatens wildlife, exposes people to dangerous contaminants, and requires costly and energy-intensive treatment. Poor water quality of our rivers is due in part to the District's large amounts of impervious, or non-porous surfaces from development.

While challenging, the District is committed to improving the quality of its waterways and is at the forefront of implementing innovative technologies and programs better manage our stormwater throughout the city. In 2018, for the first time in ten years, the Anacostia River received a passing grade on an annual health check by a local advocacy group, the Anacostia Watershed Society[17]. DC Water's $2.6 billion Clean Rivers Project is having a large impact of the river's improved quality by reducing the amount of combined sewer overflows by 98% through the construction of larger underground tunnel systems. In addition, under the District's Municipal Separate Storm Sewer System (MS4) permit, issued by the EPA, the District is required to manage and reduce stormwater pollution by installing green infrastructure and tracking pollutant loads. The District has also launched cutting edge programs, such as the Stormwater Retention Credit Trading Program, that allows property owners to earn revenue for projects that reduce harmful stormwater runoff by installing green infrastructure or removing imperious surfaces. In 2014, the District launched a long-term project, "A Cleaner Anacostia River," to remediate the Anacostia River's contaminated sediments and has allocated $45 million to this project[18]. The restoration of five streams that flow into the Anacostia River has also helped improve river water quality. Finally, the passage of multiple law such as the foam ban and bag law, have all worked to improve the Anacostia River's water and recreational quality.

16https://planning.dc.gov/sites/default/files/dc/sites/op/publication/attachments/Anacostia%20Waterfront%2015%20Year%20Progress%20Report.pdf

17https://www.washingtonpost.com/local/after-10-years-of-flunking-anacostia-river-passes-annual-health-check-with-d-rating/2018/06/13/42932710-6f21-11e8-bf86-a2351b5ece99_story.html?utm_term=.4dd7d5eac676

18https://planning.dc.gov/sites/default/files/dc/sites/op/publication/attachments/Anacostia%20Waterfront%2015%20Year%20Progress%20Report.pdf

SDC 2.0's actions for water have real-world benefits for the city at all levels:

Individuals: Actions in SDC 2.0's water section focus on making the District's rivers a resource for everyone to enjoy. By restoring these waterways, residents will have more opportunities for healthy recreation and physical activities such as fishing, boating, and swimming.

Neighborhoods: To better manage the risk of neighborhood flooding, SDC 2.0's water section pushes the District to innovate at the neighborhood level by incorporating more small-scale stormwater collection in order to more efficiently capture stormwater.

Citywide: As the District continues to rapidly grow in population, SDC 2.0's water section seeks to address the growing tension between development across the city and increased stormwater runoff and growing demands for potable water with innovative policies and programs like the stormwater credit trading program.

Goal 1: Improve the quality of waterways to standards suitable for fishing and swimming.

Target 1: By 2032, make 100% of District waterways fishable and swimmable.

WT1.1: Encourage reduced use of personal care products, pesticides, and fertilizers that contain existing and emerging contaminants.

Emerging contaminants are chemicals that had not previously been detected and are then discovered in the water supply. These chemical contaminants pose a risk to human health and the environment and can be found in pharmaceuticals, personal care products, pesticides, and fertilizers. The District Government should develop an educational campaign to inform consumers about the health and environmental impacts of widespread use and improper disposal of the products and to identify less harmful alternative products. The District Government, in collaboration with other jurisdictions, should also consider banning the use of some products that contain emerging or existing contaminants in order to improve overall water quality.

Timeframe: Long term

Lead: DOEE

Partner: DPW, DC Water

WT1.2: Create and adopt a salt management strategy for snow and ice removal that minimizes the use of road salt, and study alternatives to reduce the District's reliance on road salt.

The application of rock salts to roads in winter harms trees and pollutes waterways. Restricting the use of road salt would limit pollution in snowmelt. In order to transition away from road salts, the District Government will study alternative products and technologies and develop an overall strategy for snow and ice removal that is more environmentally friendly. The District Government will also work with Business Improvement Districts, Main Streets, and large property owners to help them to refine their snow removal and salt strategies.

Timeframe: Medium term

Lead: DOEE

Partner: DPW

WT1.3: Provide education on how people can reduce stormwater pollution through good housekeeping, vehicle maintenance, property lawn care, and pet waste management.

A 2017 study found that residents want more information on how to live sustainable lifestyles. One practical way to do this is by equipping residents with the knowledge and skills on how to help reduce stormwater pollution (the rainwater that flows over the ground and into a waterbody) on their own properties. District Government will work to improve the overall water quality of our rivers by providing resources and education to residents, such as tips on how to sustainably take care of a lawn by mowing higher and leaving grass clippings on top to allow for nitrogen and other nutrients to return to the soil.

Timeframe: Medium term

Lead: DOEE

WT1.4: Develop and implement an Anacostia River remediation work plan that restores fish and wildlife habitat while improving public access to the river.

Decades of industrial and urban activities throughout the Anacostia River's watershed have increasingly compromised the water quality of the river. High concentrations of hazardous substances are present in sediment throughout the river, posing a risk to aquatic organisms and to humans. The District Government is leading an effort—the Anacostia River Sediment Project—to clean up the river and allow for better public access to the river for the public at large.

Timeframe: Long term

Lead: DOEE

WT1.5: Increase public access to water quality monitoring data and develop partnerships to expand the scope of water quality monitoring.

The District should provide easy access to up-to-date water quality monitoring data for residents and visitors so that they can make informed decisions before swimming, fishing, and boating in District waterways. In order to expand the scope of monitoring data, the District Government should forge partnerships with residents, non-profits, and other partners to both sample and report on water quality in the District.

Timeframe: Medium term

Lead: DOEE

WT1.6: Restore 10 miles of streams in the District.

Since 2012, the District has restored over two miles of streams including Pope Branch, Nash Run, Alger Park, Spring-

house Run, Linnean Park, and Broad Branch. Stream restoration is a set of techniques that help improve the environmental health of a stream. Techniques range from simply removing a disturbance that inhibits natural stream function, to stabilizing stream banks, or installing stormwater management facilities such as wetlands. These restoration projects expand habitat for animals, reduce stream bank erosion, improve water quality, and slow down stormwater flows.

Timeframe: Long term

Lead: DOEE

Goal 2: Reduce the volume of stormwater runoff.

Target 2: By 2032, implement green infrastructure practices to capture, retain, or reuse stormwater from at least 10% of the District.

WT2.1: Install and maintain 4 million new square feet of green roof.

In 2017, the Washington region had the greatest square footage of green roof installations in North America.[19] Green roofs retain rainfall to reduce the volume and rate of stormwater running into the sewer system. Green roofs also provide a habitat for birds and insects, insulate buildings to reduce energy use, and cool neighborhoods by reducing heat absorption. Increasing the installation of green roofs across the city—and in creative ways such as row houses working together to share green roofs across rooftops—can be another tool in the suite of strategies to reduce the risk of combined sewer overflows and flash floods.

Timeframe: Medium term

Lead: DOEE

WT2.2: Audit 1,200 properties via the RiverSmart Homes program per year and increase participation in areas of the city where enrollment has been historically low.

The RiverSmart Homes program offers incentives to homeowners who want to reduce stormwater runoff (the rainwater that flows over the ground and into a waterbody) from their properties by offering low-cost rain barrel installations, planting trees and rain gardens, and removing impervious surfaces on properties. While demand for RiverSmart Homes has been high, it's important that the program reaches participants from across the District with a focus on areas where enrollment has been historically low. In order to increase participation in these areas, District Government will devise population-specific strategies based on the community it is trying to reach and adapt the strategies over time to reflect lessons learned in the engagement process.

Timeframe: Medium term

Lead: DOEE

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19 https://livingarchitecturemonitor.com/news/2018/7/25/2017-green-roof-industry-survey-shows-washington-dc-in-top-spot-for-most-green-roofs-installed

WT2.3: Incorporate neighborhood-scale stormwater collection into large-scale planning efforts early in the redevelopment process, including public right of way and parks.

Stormwater is primarily managed through underground pipes across a city. Uncontrolled stormwater has many negative impacts on the environment and humans, including flooding, eroding stream banks, damaging fish and aquatic life, and threatening public health. Instead of handling stormwater solely at the city level through pipes, District Government will incorporate more small-scale stormwater collection technology into development projects, including adding green infrastructure to public right of ways (like medians, sidewalks) and developing multi-use spaces such as parks and basketball courts that can capture rainwater during large downfalls, in order to spread out and more efficiently capture stormwater across the city.

Timeframe: Medium term

Lead: DDOT

Partner: DOEE, DC Water, OP, DPR, DGS

WT2.4: Grow the District's Stormwater Retention Credit Trading program.

District Government's Stormwater Retention Credit Trading (SRC) program is an innovative program where property owners can generate and sell credits to earn revenue for projects that reduce harmful stormwater runoff by installing green infrastructure or by removing impervious surfaces. Credits can be sold in an open market to properties that have regulatory requirements for managing stormwater or sold to DOEE. To grow the program, the District will enhance and expand use of the list of sites where property owners are willing to have green infrastructure installed on their property, including information about priority locations, in order to encourage partnerships between SRC-generating businesses and property owners and thereby reducing the volume of stormwater runoff.

Timeframe: Short term

Lead: DOEE

WT2.5: Streamline and coordinate incentive programs for combined green roofs and solar projects.

How can a rooftop in the District install both solar panels and a green roof? While possible, District Government will provide guidance and clarity by streamlining the process for permitting both practices so that a property owner can easily take advantage of emerging technology that integrates both green roofs and solar. By making the means to do so clear, more properties will be able to take advantage of both environmental practices.

Timeframe: Short term

Lead: DOEE

Partner: DCRA

WT2.6: Pilot a large scale network of green infrastructure with smart controls to anticipate and respond to weather conditions.

District Government will pilot green infrastructure technologies that have smart controls, such as sensors, that can both anticipate and respond to weather conditions. For example, the city of Chicago installed sensors in green infrastructure that allows for live collection and analysis of how the green infrastructure captures stormwater runoff when it rains. By using smart sensors, District Government can improve its work to reduce stormwater runoff.

Timeframe: Medium term

Lead: DOEE

Partner: DGS

Goal 3: Reduce demands for potable water and increase rainwater reuse.

Target 3: By 2032, decrease per capita potable water use by 20%.

WT3.1: Update the District building codes to increase water-efficiency standards and allow the use of alternative water systems.

The majority of the water we consume is used inside buildings for drinking, cooking, washing, air conditioning, and cleaning. Water efficiency technologies such as low-flow showerheads, toilets, faucets, and high efficiency washing machines significantly reduce water use. District Government should continue to update the Construction Code's water-efficiency standards to continue to reduce potable water consumption in the District. In addition, the District's building codes should continue to allow for the optional use of alternative water systems such as gray water (wastewater collected in buildings from showers, bathtubs, clothes washers, and lavatory faucets) in order to reduce demands for potable water consumption.

Timeframe: Medium term

Lead: DCRA

Partner: DOEE, DGS

WT3.2: Develop incentives for water-efficiency measures in landscaping and buildings.

District Government will develop and institute water-efficiency incentives to reduce consumption, encourage low and zero-water technologies (for example waterless urinals, composting toilets), and promote water-efficient landscape design using native species and green infrastructure.

Timeframe: Long term

Lead: DOEE and DC Water

Partner: DCRA

WT3.3: Pilot water efficiency projects in District Government to lead by example.

District Government will lead by example by being at the forefront of testing new water efficiency technology such as rainwater harvesting systems. By taking the lead on these new technologies, District Government will be able to share lessons learned and help spread adoption of these technologies across different sectors.

Timeframe: Short term

Lead: DGS

Partner: DOEE, OCTO

Goal 4: Ensure safe, accessible drinking water.

Target 4: By 2032, ensure 100% of District residents have access to clean, affordable drinking water at all times.

WT4.1: Identify and implement the most effective steps to improve the resilience of the drinking water system to natural and human disasters.

District residents depend on clean and safe drinking water. With a rapidly changing climate, it is imperative for District Government to increase the resilience of our drinking water system by ensuring that it's equipped to handle and bounce back from a range of natural and human disasters.

Timeframe: Medium term

Lead: DC Water

Partner: DOEE, HSEMA

WT4.2: Eliminate all lead service lines and premise plumbing from District-owned buildings.

Lead service lines were predominately installed prior to the mid-1950s in the District, but there are records of lead service lines being installed as late as 1977. Lead can cause serious health problems if too much enters the body from drinking water. District Government should lead by example and remove all lead service lines and premise plumbing from its District-owned buildings to ensure the safety of water in these buildings.

Timeframe: Long term

Lead: DGS

WT4.3: Replace at least 1% of water pipes each year.

Pressurized water mains have an expected life of 100 years. In order to keep pace with aging water infrastructure, DC Water will commit to replacing at least 1% of the District's water pipes each year to keep pace with each pipe's 100-year lifespan. These efforts will improve water quality and system reliability, increase water pressure, and maintain adequate flows.

Timeframe: Long term

Lead: DC Water

WT4.4: Work with the Washington Aqueduct to ensure that the District's drinking water is of the highest possible quality by protecting source water, addressing emerging contaminants, and upgrading drinking water treatment processes.

The Potomac River via the Washington Aqueduct is the District's source of drinking water. DC Water, the water utility for the District, should work closely with the Aqueduct to examine the vulnerability of the system, determine if there is an opportunity to upgrade the Aqueduct's treatment process to a state-of-the-art facility, and develop strategic plans to ensure that the water source is protected from emerging contaminants and threats.

Timeframe: Long term

Lead: DC Water

What do you think?

We want to hear from you! Make your mark on Sustainable DC by sharing your thoughts at www.sustainabledc.org. The deadline for feedback is September 30, 2018.

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