

City	Action Details
New York, NY	Focuses on LEED certification. Compels the city to pass a stretch code in 2019 that is at least 20% more stringent than the state code.
New York, NY	The City will create legislation requiring all large buildings to limit fossil fuel use long-term below intensity targets by 2030 and 2035.
New York, NY	Beginning in 2015, the City allocated 2.7 billion to retrofit City-owned buildings. This must be accelerated to achieve a 20% deeper reduction in energy consumption by 2025.
New York, NY	Requires commercial and multifamily building owners to conduct four above-code energy-saving actions: - Local law 87 of 2009 mandates that buildings >50,000 sq ft undergo periodic energy audit and retro-commissioning measures. - NYC Local Law 88 of 2009 requires lighting retrofits to meet current NYCECC standards and to install electric sub-meters for each tenant space. - Local Law 33 of 2018 requires building owners subject to the city's benchmarking ordinance to display an "energy efficiency grade" at each public entrance of the building. - Intro 1253 regulates emissions from buildings larger than 25,000 sq ft on an annual basis and subjects those properties to penalties for excessive emissions. Buildings are classified by "type", and for each type, the sq ftage is multiplied by an acceptable emissions intensity factor. Sometimes these factors are subdivided by fuel type, and they change over time out to 2050. By 2050
New York, NY	City conducts energy audits and retrofit evaluations in its own building stock, and funds those with the most potential first.
New York, NY	Launch a Commercial Property Assessed Clean Energy (C-PACE) program to finance clean energy and energy efficiency upgrades at favorable terms
New York, NY	This is an incentive for energy efficiency upgrades in affordable housing projects.
New York, NY	Passed in 2015 and prohibits stores from leaving doors or windows open while air conditioning is running.

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Electrify Transit						
Electrify Commercial Vehicles						
Electrify Personal Vehicles						
Electrify Municipal Fleet						
Increase City Density						
Increase Building Use Intensity						
Buildings						
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New Commercial						
Retrofit Residential						
Retrofit Commercial						
Improve Industrial Efficiency						
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Reduce Waste						
Heat Pumps						
Geothermal						
Air-source Heat Pumps						
Solar PV Rooftop						
Solar PV Ground Mount						
Expanded District Energy						
Energy Storage						
Wind						
Renewable Natural Gas						
Waste Heat						
Climate Shift 6: Negative Emissions						
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City	Action Details
New York, NY	Deptmt of Cultural Affairs redistributes reusable materials, city agencies and public schools to divert them from landfills. Creating a new position to work with cultural organizations to help them reduce their energy costs, with the view that they're reducing their own costs, as 25% of the funding from this deptmt to cultural organisations goes to energy costs.
New York, NY	NYC Food Policy diverts organic waste from landfill through its work with agencies, rescue organizations, food businesses, and residents. It also encourages the procurement of sustainable and local products.
New York, NY	NYC partners with the City University of NY to lead collaboration with NY State and city agencies, utilities and industry to integrate solar and storage into NY infrastructure. This results in more people skilled to deploy these technologies in the City.
New York, NY	The Office of Environmental Remediation is expanding its materials exchange program to include promoting local reuse of surplus material resources generated during construction. This will reduce GHG emissions from transportation, and provide building materials to construct flood control structures that will increase resilience.
New York, NY	Programs include: - NYC Retrofit Accelerator and Community Retrofit NYC programs assist 4,000+ buildings in identifying energy and water saving retrofit opportunities and connecting to financial and technical resources. - NYC Carbon Challenge voluntary leadership program works with 100+ companies and organizations that have committed to 30, 40 or 50% reductions in GHG emissions. The City will work to expand these and launch a new program to support the real estate industry to implement low energy design for new construction and substantial renovations. The City will also release a free planning tool for high performance energy retrofit strategies for existing large buildings to achieve deep energy reductions.

Climate Shift 1: Tools and Targets

Climate Shift 2: Low Carbon City and Zero Emissions Transportation

Transportation

Transportation Marketing

Increase Cycling/ Walking Infrastructure

Car Free Zones

Car Share

Enhanced Transit

Electrify Transit

Electrify Commercial Vehicles

Electrify Personal Vehicles

Electrify Municipal Fleet

Increase City Density

Increase Building Use Intensity

Buildings

Climate Shift 3: Emissions Neutral Buildings

New Residential

New Commercial

Retrofit Residential

Retrofit Commercial

Improve Industrial Efficiency

Climate Shift 4: Renewable Revolution

Reduce Waste

Heat Pumps

Geothermal

Air-source Heat Pumps

Solar PV Rooftop

Solar PV Ground Mount

Expanded District Energy

Energy Storage

Wind

Renewable Natural Gas

Waste Heat

Climate Shift 6: Negative Emissions

Climate Shift 5: A Just and Equitable

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City Action Details

Salt Lake City, UT	SLC has Revolving Loan Funds available for energy efficient equipment upgrades and building retrofits.
Basel, Switzerland	Law to reduce 10% from the motorized traffic on city street between 2010 and 2020: walkability/bikeability strategy, tram 2020, limited parking space, park&ride beyond the city boundary, prioritising public transport, street hierarchy (speed 50-30-20km/h).
Oslo	Free parking for electric vehicles.
San Francisco, CA	Increase San Francisco's canopy cover by 25% (50,000 trees) by 2030. The City's Urban Forest Plan focuses on improving the health and sustainability of the urban forest by protecting and expanding the city's tree population and recommending increased funding for street tree planting and maintenance.
Baltimore, MD	Through the City's adoption of the International Green Construction Code, the City of Baltimore now requires all new construction buildings to incorporate onsite renewable energy generation into their buildings. The City uses 11 megawatts of solar energy.
San Jose, CA	San Jose Clean Energy is a program that enables San José to pool the electricity demand of the entire city and develop and/or bulk-purchase renewable power on behalf of the residents, businesses, and government electricity users within our jurisdiction. Being a public entity, SJCE will be subject to the rules of transparency, open meetings, notices, and other protections provided by law. SJCE will be completely ratepayer funded. This means that only those who use the service will pay for it, but it will make carbon-free electricity available to all users in San José. Having direct ownership and control over our electrical power allows us to be the leading edge of California's renewable energy transformation. From 2018, SJCE will allow us to have carbon-free electricity with a significant share of renewable energy – at least ten percent more than PG&E – combined with low-carbon sources such as large hydropower. There are many other actions discussed in the Climate Smart San José plan.

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City
Washington,
DC

Action Details

The District's Renewable Energy Portfolio Standard (RPS) requires electric suppliers to source a percentage of their electricity from solar (thermal or pv) located in the District through the purchase of Solar Renewable Energy Credits (SRECs). In 2016, Mayor Bowser signed legislation to expand the RPS to 50% by 2032 and the local solar requirement to 5% by 2032. SRECs provide the owners of solar energy systems a substantial source of revenue. Modeling in the Clean Energy DC plan suggests the additional generation spurred by the local solar RPS requirement will result in 87,000 less MTCO2e in 2032, as compared to business-as-usual. Additionally, the legislation creates the Solar for All Program to reduce, through solar power, at least 50% the electric bills of at least 100,000 of the District's low-income households by 2032. In Fiscal Year 2017, DOEE announced \$13M in funding under this program to install solar on multifamily homes, commercial buildings, non-residential surface spaces, low-income single-family homes, small businesses, and owner-occupied nonprofits. Sustainable DC has a goal to build 1,000 new residential and commercial renewable energy projects between 2006-2032; in 2017 alone, the District added over 685 systems totaling 15.2MW AC. In 2015, DC Water completed construction and began operating a cogeneration facility which uses thermal hydrolysis and anaerobic digestion to generate ~10 net MW of electricity, enough to power a third of the facility's operations (see also in government operations strategy) Net metering is currently available to DC's residential and commercial customer-generators with systems powered by renewable-energy sources, combined heat and power (CHP), fuel cells and microturbines, with a maximum capacity of 1 megawatt (MW). The term "renewable energy sources" is defined as solar, wind, tidal, geothermal, biomass, hydroelectric power and digester gas. In 2013 the Community Renewable Energy Amendment Act of 2013 was enacted to allow renters and other District residents and businesses who are unable to install PV solar panels on their own roofs to use a "virtual" net metering program to purchase solar energy from systems installed elsewhere in DC.

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Climate Shift 3: Emissions Neutral Buildings	
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New Commercial	
Retrofit Residential	
Retrofit Commercial	
Improve Industrial Efficiency	
Climate Shift 4: Renewable Revolution	
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Reduce Waste	
Heat Pumps	
Geothermal	
Air-source Heat Pumps	
Solar PV Rooftop	1
Solar PV Ground Mount	1
Expanded District Energy	
Energy Storage	
Wind	
Renewable Natural Gas	1
Waste Heat	
Climate Shift 6: Negative Emissions	
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City	Action Details
Denver, CO	Building energy efficiency is a key component of the City's efforts to achieve Denver's 2020 Sustainability and Climate Action Plan goals of reducing greenhouse gas emissions below 1990 levels by 2020 and by 80 percent by 2050. Energize Denver aims to reduce the energy consumption of large buildings by 10 percent by 2020 and 30 percent by 2030. Denver's benchmarking ordinance requires owners of buildings over 25,000 square feet to annually benchmark the energy use. The City's programs also engage tenants to improve energy efficiency of their spaces and provide resources to improve the efficiency of buildings. The annual projection represents the expected annual reduction in target year 2050.
Washington, DC	Green Bank: In 2016, DOEE commissioned a Green Bank Report for the District as part of an initiative to research innovative tools for financing clean energy projects. The Mayor introduced legislation, and in June 2018 the DC Council passed the District of Columbia Green Finance Authority Establishment Act of 2017.
Toronto	In 2013, City Council approved the first Strategic Forest Management Plan (2012-2022): Sustaining and Expanding the Urban Forest. The Plan highlights six strategic goals to protect and improve the urban forest, including the goal to expand tree canopy cover to 40%, achieve equitable distribution of canopy cover and increase biodiversity in Toronto.
Paris, France	Paris in the hydrogen era The growth of the electric car market foreshadows the development of hydrogen – currently a rapidly expanding sector for vehicle energy storage and supply applications. To maintain this momentum and ensure the development of renewable hydrogen supplies (produced by water electrolysis), the City of Paris will draft a hydrogen development strategy. This will incorporate support for research into the development of the most innovative technologies, an adapted low-carbon production process, an extensive and safe distribution system throughout the entire area, an information policy for territorial stakeholders and a monitoring system for hydrogen consumption.

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Transportation Marketing	
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Enhanced Transit	
Electrify Transit	
Electrify Commercial Vehicles	
Electrify Personal Vehicles	
Electrify Municipal Fleet	
Increase City Density	
Increase Building Use Intensity	
Buildings	1
Climate Shift 3: Emissions Neutral Buildings	1
New Residential	
New Commercial	
Retrofit Residential	1
Retrofit Commercial	1
Improve Industrial Efficiency	
Climate Shift 4: Renewable Revolution	
Reduce Waste	
Heat Pumps	
Geothermal	
Air-source Heat Pumps	
Solar PV Rooftop	
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Waste Heat	
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Climate Shift 5: A Just and Equitable	

City
Taipei

Action Details

1. Develop the “Taipei City Commercial & Industrial Sectors Energy Efficiency & Carbon Reduction Ordinance”: Through legal means, checking and testing indoor air temperature and lighting equipment in industrial and commercial workplaces are conducted to regulate their energy use behaviour.2. Counselling and assessment in energy efficiency for commercial & industrial sectors: For major power users, it provides expertise counselling and delivers suggestive reports to guide them on improving energy efficiency.3. Developing the “Principle of Taipei City Industrial and Commercial Energy Saving Subsidy”: For those enterprises who embrace energy conservation voluntarily and have over 100 kW electricity demand on contract capacity, we provided counselling service for the managements and improvements of electricity, lighting, air conditioning and heat system. The government attempts to encourage business and industry to introduce smart energy-saving systems and improve energy use efficiency. Moreover, itsupports the development of the domestic green energy industry. There were 1189 cases fulfilled, electricity saving up to 57.4 million kWh, equivalent to reduce the GHG emissions about 31,650 metric tons.

Rio de Janeiro

Implementation of the Telework modality in the city of Rio de Janeiro. Improvement of the quality of life of the citizen, with the reduction of bottling rates and, consequently, of the reduction of greenhouse gas emissions, by means of example and incentive to the initiatives of telework in the private sector.

Providence, RI

The City of Providence has earned the U.S. Department of Energy’s Silver SolSmart designation for The City’s efforts to reduce barriers to going solar. SolSmart is a program that offers technical assistance to local governments in order to promote widespread solar implementation in the United States. Providence helps homeowners and businesses transition to solar by minimizing certain costs pertaining to zoning, planning, permitting, inspection, and customer acquisition. Providence supports solar implementation through its zoning codes, staff training programs on solar PV permitting and inspection, and efforts to work more broadly with the State of Rhode Island to develop solar programs. All of these qualities helped make Providence a strong candidate for participation in the SolSmart Program.

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Increase Cycling/ Walking Infrastructure	Transportation Marketing
Car Free Zones	Car Share
Enhanced Transit	Enhanced Transit
Electrify Transit	Electrify Transit
Electrify Commercial Vehicles	Electrify Commercial Vehicles
Electrify Personal Vehicles	Electrify Personal Vehicles
Electrify Municipal Fleet	Electrify Municipal Fleet
Increase City Density	Increase City Density
Increase Building Use Intensity	Increase Building Use Intensity
Buildings	
Climate Shift 3: Emissions Neutral Buildings	Buildings
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New Residential	New Residential
New Commercial	New Commercial
Retrofit Residential	Retrofit Residential
Retrofit Commercial	Retrofit Commercial
Improve Industrial Efficiency	Improve Industrial Efficiency
Climate Shift 4: Renewable Revolution	Climate Shift 4: Renewable Revolution
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Reduce Waste	
Heat Pumps	Heat Pumps
Geothermal	Geothermal
Air-source Heat Pumps	Air-source Heat Pumps
Solar PV Rooftop	Solar PV Rooftop
Solar PV Ground Mount	Solar PV Ground Mount
Expanded District Energy	Expanded District Energy
Energy Storage	Energy Storage
Wind	Wind
Renewable Natural Gas	Renewable Natural Gas
Waste Heat	Waste Heat
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Climate Shift 5: A Just and Equitable	Climate Shift 5: A Just and Equitable
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City Action Details

Phoenix, AZ	Transportation 2050, approved by the voters, is a \$32B transportation that that will reduce transportation emissions by 80% by 2050 through tripling of the light rail, increase bus a rapid bus service and encouraging other sustainable modes of transportation.
Piedmont, MD	On June 4, 2018, Piedmont's City Council decided to opt-up all residential electricity accounts into East Bay Community Energy's (Alameda County's new Community Choice Aggregate) 100% Renewable Energy option. This energy plan will begin providing 100% renewable energy to customers in November 2018.
San Francisco, CA	Residential Energy Conservation Ordinance (RECO) leading to 2.5% improvement in energy efficiency in the residential sector.
Freemont, CA	Under the 2016 California Energy Code, new residential and non-residential developments must be designed to be "Solar Ready" by providing for a solar zone and a solar pathway that will enable future solar installations. In order to expedite the adoption of solar technologies, the City of Fremont adopted an energy requirement that goes beyond the minimum provision of solar readiness to require the mandatory installation of solar photovoltaic (PV) systems in new residential developments. Prescriptive minimum solar PV system sizes are required for residential buildings with up to 4,499 sq. ft. of conditioned space. For buildings 4,500 sq. ft. or above, solar PV systems must be sized to meet a minimum percentage of total building "time dependent valuation (TDV)" energy use. Alternative renewable energy systems including ground-mounted or carport solar or wind energy systems may be considered. Developers may also achieve compliance with the ordinance by meeting the energy efficiency standards established under the CALGreen Building Standards Tier 1. In addition to meeting minimum system sizing requirements, developers must provide solar readiness beyond the minimum required system sizes. Developers must also offer expanded system sizes to potential buyers. Developers are encouraged to consider expandable solar technologies and to design for all-electric building energy systems.

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Electrify Transit	
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Climate Shift 3: Emissions Neutral Buildings	
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New Commercial	
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Retrofit Residential	
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Retrofit Commercial	
Improve Industrial Efficiency	
Climate Shift 4: Renewable Revolution	
Reduce Waste	
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Heat Pumps	
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Solar PV Rooftop	
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City
Paris,
France

Action Details

Towards a reduction in aviation emissionsThe aviation industry alone represents 2% of worldwide CO2 emissions – if it were a country it would have the 10th highest emissions in the world. Because of strong growth (a 70% increase in 2020 as compared to 2005), this industry is one of the biggest contributors to climate disruption. In Paris, it was responsible for 23% of greenhouse gas emissions in 2014, which is close to one-quarter of all emissions in the city. Without government intervention, emissions from air travel are likely to increase and even triple by 2050. This will further magnify the impact of climate disruption and undermine contributions to the energy transition in other industries.On the international stage, the City of Paris will advocate for the inclusion of emissions from aviation fuels in the Paris Agreement. This is the only way to document these emissions, and will require operators to take responsibility for their impact. At the same time, by 2020, the City of Paris, in collaboration with the C40, will call on the International Civil Aviation Organisation (ICAO) to require airlines to make binding fuel efficiency commitments. They must become more ambitious than just committing to carbonneutral growth, such as introducing a universal carbon tax on airports.Given the importance of air traffic at the global level, Paris will call on manufacturers and suppliers of aeronautical equipment to improve the technical performance and fuel efficiency of engines and fuels by 2030.

Lahti

Lahti Energy is involved in cooperations with companies, e.g. with Fazer Mills, milling by-products (oats husks) are utilized as energy. Lahti Energy delivers hot water and steam to Polttimo, a malting company, from the steam plant built in 2016 on the Polttimo premises, which mainly uses woodchips.

San Francisco,
CA

• Improved public transportation information• Provide transit passes for all new development• Continue parking cash out program• Promote transit oriented development in priority development areas• Require hotel visitor transit passes• Expand participation in the SF's rideshare 511 program• Increase distribution of employee/students transit passes• Coordinate commuter shuttles• Develop neighborhood travel choice programs• Expand SFGO signal synchronization program• Expand SFPark meter demand pricing program• Implement variable road pricing in downtown

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Electrify Transit	1
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City	Action Details
New York, NY	- The Hunts Point South Bronx Clean Truck Program (HPCTP)The HPCTP's central goal is to provide funding to accelerate the purchasing of vehicles which use low-carbon alternative fuels or biodiesel. So far, they have secured \$24 million through the USDOT-F
Basel, Switzerland	Outdoor cooling / heating is forbidden
Toronto	In partnership with Metrolinx, the City delivers Smart Commute Toronto, a program that engages businesses to promote sustainable commuting options such as carpooling, cycling and public transit, to their employees. By reducing single occupant vehicle trips and promoting sustainable alternatives, Smart Commute helps to improve air quality, reduce greenhouse gas emissions, and reduce congestion across transportation modes overall, particularly during peak periods. In 2016, Smart Commute Toronto partnered with 52 major employers at 91 work sites, representing over 265,000 commuters.
Toronto	Since 2009, over 71.5 million litres of stormwater – equal to 8,850 Olympic-sized swimming pools – have been diverted from the City's sewer system by green roofs funded through the Eco-Roof Incentive Program. Using fees paid by developers who pay cash-in lieu of installing a green roof, the program funds the voluntary installation of green roofs and cool roofs. In addition to retaining stormwater, eco-roofs mitigate the urban heat island effect, reduce energy consumption and greenhouse gas emissions, improve air and water quality, enhance green space and biodiversity and provide habitat for pollinators. Altogether, eco-roofs also make the city more resilient to climate change and flood risks. More than 270 projects have been completed, totalling over 6 million square feet of transformed space, equal to 70 Canadian Football League fields. Each year these eco-roofs reduce energy consumption by an estimated 1,167 mega-watt hours, avoid 218 tonnes of greenhouse gas emissions and divert 10.6 million litres of stormwater, equivalent to more than four Olympic-sized swimming pools. In 2016 alone, 68 new projects were completed, totalling over 1.29 million square feet of retrofitted space. Each year, they will reduce energy consumption by 247,900 kWh, avoid 46 tonnes of GHG emissions, and divert 88,680 litres of stormwater.
Basel, Switzerland	If there is a use of more than 5 GWh heat or more than 0.5 GWh electricity per year, there has to be done an analysis where energy can be saved. It is expected, that 10% energy can be saved

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City	Action Details
Miraflores	The Municipality has implemented 15 modern electric motorcycles that serve to patrol the jurisdiction. It should be noted that these units do not generate sound pollution, because they do not make noise when turned on, or when traveling, and do not emit carbon monoxide. Also, they require a minimum maintenance compared to conventional ones.
Boynton Beach, FL	The City's voluntary Green Building Program offers expedited permitting, tax and fee incentives, and marketing incentives to participating developers. The project must be registered with a nationally recognized green certification agency to qualify.
London	London Plan existing policies to minimise greenhouse gas emissions, including zero carbon homes policy. Draft new London Plan then aims to introduce energy efficiency targets for new developments and extend zero carbon development policy to non-residential.
Washington, DC	The District has reduced registration fees for hybrids and electric vehicles, and exemption from the excise tax for vehicles rated at 40 miles per gallon or more. DOEE continues to gather EV and hybrid registration data from the DMV, which is being used to help prioritize sites for the deployment of EV chargers. There are roughly 100 different charging station locations throughout the District, of which the District operates 7. The DC Council recently passed law to install 15 new charging stations in 2018 and EV adoption is a planned strategy outlined in the Clean Energy DC plan. In May 2018, Mayor Bowser signed an order to implement the Clean Cars Act of 2008 to maintain strong vehicle standards even as the current national government prepares draft regulations to roll back vehicle emissions and fuel economy standards. The Department of For-Hire Vehicles offered an incentive program -- \$10,000 to help cab owners purchase electric vehicles -- to encourage the purchase of electric vehicles. The purchase of an EV or a plug-in hybrid vehicle is also one of four limited pathways to obtaining a city taxi license (H tag). Today there are 153 electric, 638 hybrid and 17 plug-in hybrid taxis operating in the city and two charging stations at Union Station (a large taxi hub) for their use.

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City
Seattle, WA

Action Details

City Light Whole Building Pay for Performance (P4P) Programs Scale Pay for Performance efforts and pilot an innovative utility program exploring Energy Efficiency as a Service in up to 30 buildings to unlock greater levels of energy efficiency depth at scale. To address the “hard to reach” energy savings, Seattle City Light is developing programs specifically aimed at enabling greater levels of energy efficiency depth in buildings. Whole building programs, such as Pay for Performance and Energy Efficiency as a Service (EEaS) are two approaches to increase energy savings in commercial buildings. Incentive payments are made over time based on measured energy savings and allow participants to bundle multiple projects and measures, across capital, operational & maintenance, and behavioral improvements. Seattle City Light will pilot Energy Efficiency as a Service (EEaS), which is explicitly designed to help participants overcome the split incentive barrier in commercial buildings, where there is little motivation for a building owner or investor to finance deep energy retrofits whose benefits accrue to tenants. EEaS lets investors finance projects with a predictable return, owners generate a new revenue stream, and tenants occupy productive and energy efficient spaces. The pilot will leverage the lessons learned from a prototype at the Bullitt Center.

Oslo

FutureBuilt is a ten-year program (2010-2020) with a vision of developing carbon neutral urban areas and high-quality architecture. The aim is to complete 50 pilot projects – urban areas as well as individual buildings – with the lowest possible greenhouse gas emissions. Requirement to be a FutureBuilt project is a reduction of GHG emission from energy use, transport and construction by 50% towards business as usual.

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City	Action Details
Washington, DC	With a target of reducing energy consumption per vehicle mile by 15% through improving the energy efficiency of its operations, WMATA has begun piloting wayside energy storage to store and reuse energy captured by Metrorail braking. WMATA has been upgrading train signals with energy efficient LED bulbs, which also improved safety and visibility to train operators, as well as replacing existing lighting with new LED technology as the standard for station lighting. These enhancements, which provide better visibility and improve accessibility, are underway throughout the system. To date, more than 55 (of 61) station mezzanines have been upgraded and work has begun to replace lighting for interior stations. Metro is also accelerating the retirement of the oldest and most unreliable cars, commissioning a total of 30 new trains, and implementing the Railcar Get Well Plan to reduce passenger offloads and cut delays due to train car issues by 25%. Finally, WMATA's newest 7000 series of metrorail cars have LCD map displays to allow customers to easily track their location and LED screens that provide current and upcoming station information. The DC Streetcar launched service in February 2016, and in 2017, added Sunday service and decreased headways. In 2017, the streetcar carried more than 1.1 million riders. In January 2018, DDOT continued its work to advance the necessary environmental assessments for the 3.3 mile Union Station to Georgetown (USGT) extension, by releasing the environmental assessment and holding public meetings to discuss potential storage and maintenance sites that have been identified for the new USGT streetcar vehicles. (http://unionstationtogeorgetown.com/)
New York, NY	Over the past two decades, the City of New York more than quadrupled the size of the bicycle network, growing it from less than 250 lane miles* in 1996 to over 1,100 lane miles in 2016. As laid out in OneNYC, Mayor de Blasio's plan for a vibrant, sustainable, resilient, and equitable city, NYC DOT aims to install or enhance 50 bicycle lane miles, including 10 lane miles of protected lanes each year.
Memphis, TN	We currently have a Transportation Demand Management program that targets major employers in the area and encourages the use of other commute modes besides single occupancy vehicles.

Climate Shift 1: Tools and Targets	Climate Shift 2: Low Carbon City and Zero Emissions Transportation	Climate Shift 3: Emissions Neutral Buildings	Climate Shift 4: Renewable Revolution	Climate Shift 5: A Just and Equitable	Climate Shift 6: Negative Emissions	
1	1	1	1	1	1	
Transportation	Transportation Marketing Increase Cycling/ Walking Infrastructure Car Free Zones Car Share Enhanced Transit Electrify Transit Electrify Commercial Vehicles Electrify Personal Vehicles Electrify Municipal Fleet Increase City Density Increase Building Use Intensity	Buildings	Buildings Reduce Waste Heat Pumps Geothermal Air-source Heat Pumps Solar PV Rooftop Solar PV Ground Mount Expanded District Energy Energy Storage Wind Renewable Natural Gas Waste Heat	Buildings New Residential New Commercial Retrofit Residential Retrofit Commercial Improve Industrial Efficiency	Buildings New Residential New Commercial Retrofit Residential Retrofit Commercial Improve Industrial Efficiency	Buildings New Residential New Commercial Retrofit Residential Retrofit Commercial Improve Industrial Efficiency

City	Action Details
San Francisco, CA	Clean Power SF - supply GHG free electricity to 100% of all residential customers and 80% of all commercial customers by 2030.
Reykjavik	90% of all new residential units will be inside the current urban area borders to increase the close-proximity of public services and to reduce travel needs.
Seattle, WA	Tune Ups Adopted in 2016, the Building Tune-Ups Ordinance (SMC 22.930) requires commercial buildings 50,000 square feet or larger to identifying low- or no-cost building operations and maintenance improvements to improve energy and water efficiency. Compliance deadlines will be phased in by building size, beginning in early 2019. A Qualified Tune-Ups Specialist is required to complete the assessment, report to the City, and monitor implementation of operational and maintenance improvements. Examples of operational fixes include changes to thermostat set points, or adjusting lighting or irrigation schedules. Tune-ups also review HVAC, lighting, and water systems to identify needed maintenance, cleaning or repairs. These types of improvements typically reduce individual building energy use an estimated 10-15 percent. Across the entire commercial building sector, the tune-up mandate is expected to reduce energy use 5-8 percent and GHG emissions by 6-9 percent. To demonstrate leadership, build capacity in the industry, and help reduce compliance costs, the city has committed (Resolution 31652) to meeting the Building Tune-Ups deadline one year earlier than required for private owners.
New York, NY	In 2006, the City released its Comprehensive Solid Waste Management Plan (SWMP), which requires the City to switch from a truck based system for exporting solid waste to one that uses a combination of marine barges and freight rail. Because rail is far more efficient than trucks per ton-mile, this plan has already reduced annual GHG emissions from solid waste export by more than 52,000 tCO ₂ e.

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Increase Cycling/ Walking Infrastructure	
Car Free Zones	
Car Share	
Enhanced Transit	
Electrify Transit	
Electrify Commercial Vehicles	
Electrify Personal Vehicles	
Electrify Municipal Fleet	
Increase City Density	1
Increase Building Use Intensity	
Buildings	1
Climate Shift 3: Emissions Neutral Buildings	1
New Residential	
New Commercial	
Retrofit Residential	
Retrofit Commercial	1
Improve Industrial Efficiency	
Climate Shift 4: Renewable Revolution	
Reduce Waste	
Heat Pumps	
Geothermal	
Air-source Heat Pumps	
Solar PV Rooftop	
Solar PV Ground Mount	
Expanded District Energy	
Energy Storage	
Wind	
Renewable Natural Gas	
Waste Heat	
Climate Shift 6: Negative Emissions	
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City
Paris

Action Details

A platform for carbon offsetting projects in ParisThe biggest challenge for local carbon offsetting is to ensure funding for energy transition projects throughout Paris, as well as in partnership and solidarity at the Metropolitan, national, and international level. The City will therefore explore how to set up a local carbon-offsetting scheme by 2020. This scheme would comprise a dedicated platform to connect project leaders with funders, as well as an operator that would run the platform, verify the integrity of the transactions and guarantee that the project reduces emissions without counting carbon credits twice. The local preference that is included in Paris' carbon offsetting scheme will make it possible to internally offset emissions (called in-setting) to attain zero emissions by 2050. This practice, which needs to be created at the municipal level, presents the advantages of reinvesting carbon offsetting funds locally, better monitoring funded projects, and boosting the visibility of financial contributions from citizens and stakeholders.While voluntary carbon offsetting mechanisms are mainly geared towards companies, the City of Paris will launch a feasibility study on creating a local carbon-offsetting platform for Paris. The goal is to design a tool to mobilise all of the city's stakeholders to encourage and allow them to reduce their carbon footprint. The main purpose of the study will be to collect suggestions for a wide variety of projects from citizens, city stakeholders, the Metropolitan Area, and the City of Paris, using the same format as the participatory budget. The Greater Paris Metropolitan Area wishes to be involved in this initiative.This participatory financing tool is designed to accelerate energy and ecological transition projects in Paris and in partnership with rural areas in France, from carbon reduction (energy renovation, renewables) to sequestration (creating green spaces, agriculture, afforestation).Over time, and consistent with future carbon offsetting mechanisms that will be defined in the Paris Agreement protocol, the platform will make it possible to identify and finance low-carbon development projects in other countries, according to climate solidarity principles.

Climate Shift 1: Tools and Targets

Climate Shift 2: Low Carbon City and Zero Emissions Transportation

Transportation

Transportation Marketing

Increase Cycling/ Walking Infrastructure

Car Free Zones

Car Share

Enhanced Transit

Electrify Transit

Electrify Commercial Vehicles

Electrify Personal Vehicles

Electrify Municipal Fleet

Increase City Density

Increase Building Use Intensity

Buildings

Climate Shift 3: Emissions Neutral Buildings

New Residential

New Commercial

Retrofit Residential

Retrofit Commercial

Improve Industrial Efficiency

Climate Shift 4: Renewable Revolution

Reduce Waste

Heat Pumps

Geothermal

Air-source Heat Pumps

Solar PV Rooftop

Solar PV Ground Mount

Expanded District Energy

Energy Storage

Wind

Renewable Natural Gas

Waste Heat

Climate Shift 6: Negative Emissions

Climate Shift 5: A Just and Equitable

City	Action Details
Washington, DC	Starting in 2012, the Clean and Affordable Energy Act of 2008 required all buildings (residential and commercial) over 50,000 square feet to report energy and water use annually using the EPA Energy Star Portfolio Manager tool. The data is publicly disclosed by DOE. To facilitate benchmarking, the District of Columbia mandated (in the Sustainable DC Act of 2014) that both electric and gas utilities provide aggregated whole-building data upon request to a building owner, and make that data available as a download and though automated upload to ENERGY STAR® Portfolio Manager®. The District was the first jurisdiction in the U.S. to put such a requirement into law. The law is now fully phased in and the data disclosure now captures more than 1,500 buildings. Between 2013-2016, the weather-normalized Site Energy Use Intensity (EUI) of private buildings that reported their energy use fell 4.5%. Specifically, the EUI of office buildings decreased 5.7% and multifamily housing buildings decreased 5%.
West Palm Beach, FL	The City currently has 42 kW of potential solar energy installed on the roof of the Lake Pavilion and the adjacent solar trellises , which are located on the Waterfront, near the Visitor's Center. The City is also working on a solar site assessment to examine the feasibility of installing solar panels on its most energy intensive properties. The City was also awarded a SolSmart Gold designation in January 2018, by becoming the first city in the state of Florida to have a one-day solar permit application approval process.
Seattle, WA	Establish new 2030 Challenge pilot for 20 upgraded, high performing projects by 2025 Create pilot program offering additional height and floor area incentives for significant upgrades in energy and water use, and transportation efficiency. A new pilot will offer additional height and floor area incentives for up to 20 major renovations in urban centers outside the International District. Projects would receive the incentives in exchange for cutting energy and water use well below code, including no use of fossil fuels for heating. The plan additionally calls for increasing the incentives for the existing Living Building Pilot, and adjusts penalties in line with the 2030 Challenge.
Mexico City	Remove from circulation polluting vehicles program

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Increase City Density	
Increase Building Use Intensity	
Buildings	1
Climate Shift 3: Emissions Neutral Buildings	1
New Residential	
New Commercial	
Retrofit Residential	
Retrofit Commercial	1
Improve Industrial Efficiency	
Climate Shift 4: Renewable Revolution	
Reduce Waste	
Heat Pumps	
Geothermal	
Air-source Heat Pumps	
Solar PV Rooftop	1
Solar PV Ground Mount	
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City
Paris

Action Details

A City that encourages low-carbon road freight transport Heavy goods vehicles account for only 5% of the distance travelled in Île-de-France, but they are responsible for 31% of the nitrogen oxide emissions generated by road transport. To reduce the impact of road freight transportation on air quality, the City, in consultation with the Île-de-France region, will be campaigning for the implementation of a dissuasive kilometre-based price scale for HGVs travelling in Île-de-France by 2030. This scheme would enable carriers to be taxed according to the number of kilometres travelled and the type of vehicle. The goal would be to reduce road haulage in Île-de-France, while also cutting the number of unladen journeys.

Malmö

The project "Delad energi är dubbel energi" is focusing on creating urban and industrial symbioses to make better use of rest products in primarily the industry sector.

Houston, Texas

Over 2.2 million smart meters have been installed across Houston, allowing consumers to see their yearly, monthly or daily electricity use down to 15-minute increments at SmartMeterTexas.com, get near-real time usage or bill forecasts on an In-Home Display energy monitor, and benefit from new retail electric products and services such as pre-paid service, time-of-use rates, and energy analysis tools. Water metering system is a real-time ability for residence to see water usage, and monitor and reduce consumption rates.

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City
Paris

Action Details

Financing energy renovation One of the keys to attaining ambitious building energy renovation targets consists of encouraging the emergence of financing solutions for projects adapted to meet the needs of different types of property owners (households, residents in jointly owned properties, landlords and housing bodies, institutions and companies). One of the options chosen by the City of Paris is to encourage third party financing. This system designates an overall support solution for the energy renovation of jointly owned properties, which includes the performance of studies, the selection of service providers, the financing of the operation and post-renovation monitoring. The third-party financing body advances the sum required by property owners to finance their projects. The reimbursement of this sum is facilitated by the savings made on energy bills. In 2013, the City of Paris supported and participated in the creation of a mixed ownership company – Energies Posit'If – for this purpose. After four years of campaigning for a change in the national regulations to authorise the use of this type of financial arrangement, the mixed-ownership company was authorised to offer its third-party financing solution to residents in jointly owned properties in 2017. The City will continue its active involvement with this operator and may participate in the recapitalisation of the company in 2018 in order to support its development. At the same time, the City and the Metropolitan Area will examine the expediency of creating an operational public fund for financing energy renovation. This would enable the provision of direct financial support for inhabitants by capitalising on feedback from different actions carried out¹⁹ by the City and its partners on this subject. This scheme would also enable work to be carried out in partnership with financial operators in order to encourage them to finance the renovation of buildings in the metropolitan area.

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City
Paris

Action Details

A Municipal Investment Programme that incorporates the carbon-neutral trajectory The Climate Plan's acceleration measures for 2020 have been included in the current municipal programme and will boost Paris' transition towards carbon neutrality. In future government mandates, the Municipal Investment Programme (PIM) will include the carbon-neutral trajectory to anticipate the investments that will be needed to attain the Climate Plan's objectives. While maintaining a high rate of self-financing, the City will seek out innovative financing and look for partners to co-finance projects that meet its environmental requirements. This funding will come from a variety of sources, calling on institutional aid (Europe, State, Region) as well as private investment capital. In particular, the City's Resilience Strategy will involve the insurance industry, which has an economic interest in investing in this topic. The City of Paris will ensure that the specifications for selecting partners and co-funders for various loans, funds, and green sponsorship will reject candidates that have been convicted of tax fraud. These specifications will also exclude funds from industries that produce the most greenhouse gas emissions and are based on the extraction of fossil fuels. Additionally, the objectives of the transition fund and the co-funding partnerships must be defined and incorporate the creation of local and sustainable jobs, financing for research, and training on environmental issues.

Oslo

Oslo has been working towards the national authorities to be able to establish low-emission zones, and has got the authority. A study is now being done on the design of it.

Tokyo

Tokyo Carbon Reduction Reporting Program for small and medium-sized facilities This reporting program covers around 63,000 small and medium sized facilities that aren't covered by the Tokyo Cap-and-Trade Program. This is a mandatory reporting and disclosure program for business operators whose facilities' energy consumption is above a certain amount. Business operators in each facility have to report the previous fiscal year's CO2 emissions, measures for energy efficiency, targets and so on. TMG publish the "Low Carbon Benchmark", which shows each facility's CO2 emissions level from one of 30 building-use categories. Additionally, TMG provides the "Carbon Report", which shows energy efficiency levels in an understandable way, using the "Low Carbon Benchmark".

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City
Basel,
Switzerland

Action Details
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City
Paris

Action Details

A city that develops its competencies and its operational resources for the public energy service. To ensure the implementation of its policies, the City of Paris intends to establish a local energy governance system and consolidate its operational resources. Paris will be advocating a decentralised energy model, including at the national and European levels, which will allow cities to regain direct control of networks and grids and favours the inclusion of renewable energy in the local energy mix with a policy of solidarity between territories via energy grids and networks. Key issues also apply at the metropolitan area level, e.g. to ensure the optimal management of the different networks and grids, promote exchanges of energy and information between different areas, develop innovative solutions and pool costs. Managing the energy transition requires the production and management of substantial amounts of data. Data management is therefore a strategic challenge to ensure the reliability of analyses, share the key issues among the stakeholders and provide guidance for decisions. Consequently, the City of Paris will be establishing a public Energy Data Service to enable the general public and the energy transition process to benefit from the new opportunities arising from the digital revolution: free access to their data for users, assistance with controlling energy consumption and managing energy grids and networks, in addition to support for public policies. It will be run by the Paris Climate Agency. The organisation of this public service will also address data management issues, including maintaining the confidentiality of personal data, on the one hand, and accessing reliable and anonymous data in open data format, on the other, to prevent the de facto privatisation of their exploitation. This public data service will also contribute to the personalised advice given to users who request it via the Paris Climate Agency, and will also produce in-depth analyses intended to facilitate the efficient management of public policies and provide guidance for different stakeholders (e.g. monitoring of fuel poverty, observation of data relating to the consumption of buildings, or the mapping of energy resources on the smallest possible scale). This public service will be developed in association with the existing stakeholders and schemes, such as the project to supervise local government energy consumption which is currently being rolled out - whose data will be hosted on the City of Paris's Data Centre and shared with the partners concerned -, the provision of metering data by energy distributors, the Paris Urbanism Agency (Atelier Parisien d'Urbanisme), etc.

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Electrify Personal Vehicles

Electrify Municipal Fleet

Increase City Density

Increase Building Use Intensity

Buildings

Climate Shift 3: Emissions Neutral Buildings

New Residential

New Commercial

Retrofit Residential

Retrofit Commercial

Improve Industrial Efficiency

Climate Shift 4: Renewable Revolution

Reduce Waste

Heat Pumps

Geothermal

Air-source Heat Pumps

Solar PV Rooftop

Solar PV Ground Mount

Expanded District Energy

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Wind

Renewable Natural Gas

Waste Heat

Climate Shift 6: Negative Emissions

Climate Shift 5: A Just and Equitable

City	Action Details
Nashville, TN	Metro Government, NES, and TVA are collaborating to launch a home weatherization project called NES Home Energy Uplift for 125 limited income families who own homes in Davidson County. Energy upgrades may include weatherization, air sealing, high-efficiency heat pumps, high-efficiency air conditioners, duct replacement/repairs, ENERGY STAR windows, building envelope insulation, high-efficiency lighting, crawl space and attic insulation, heat pump water heaters, ENERGY STAR appliances, and/or whole-house ventilation.
Freemont, CA	Under the 2016 California Energy Code, maximum allowable wattages are established for various non-residential outdoor lighting applications. To promote the use of high-efficiency LED lighting in these types of applications, the City of Fremont adopted a requirement that further reduces the maximum allowable wattages of outdoor lighting fixtures in new commercial construction projects and major retrofits. The requirement specifically pertains to the following commercial usage types: - Primary Entrances to Senior Care - Facilities, Police Stations, Hospitals, Fire Stations, and Emergency Vehicle Facilities - Drive Up Windows - Outdoor Sales Frontage - Outdoor Sales Lots - Vehicle Service Station Hardscape - Non-Sales Canopies and Tunnels - Outdoor Dining
Paris	Territorial investment funds for the ecological transition. In the summer of 2017, in order to meet its carbon neutrality objective and accelerate the ecological transition, the City of Paris launched a municipal investment fund for the ecological transition, under the competences obtained through the law on Paris' status. Paris' Green Venture Capital Fund was launched with the February 2018' s Paris Council. As a unique legal and financial tool, this Investment Fund for the Ecological Transition will mobilise private financing to support innovative solutions, notably in the Paris area, in the fields of climate protection, air quality, energy and improved energy efficiency, waste recovery, and the development of renewable energy and sustainable transport modes.
Basel, Switzerland	The fees of parking space of commuters is collected in a fund: Basel finances Park&Ride infrastructure inside and outside the city- , cantons boundaries and even France and Germany (trinational area of Basel)

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City	Action Details
Tacoma, WA	Tacoma Power offers a seven-year, zero-interest loan to qualifying owners of residential properties (includes rentals up to 4 units) for select energy efficiency programs installed by a contractor that has an active Trade Ally Agreement with Tacoma Power. Income-qualified, energy-efficiency grants may be available for owner-occupied properties to replace windows and upgrade insulation that could cover the majority of the costs of making energy efficiency improvements. Grant recipients are not eligible for rebates or zero-interest loans.
Rio de Janeiro	Partial exemption of IPTU (Municipal Urban Property Tax) collection based on the adoption of sustainability actions in existing buildings - GREEN IPTU
Santa Fe County, New Mexico	Mandatory recycling at County convenience centers;Initiating a backyard composting pilot project (Co installs 35 systems for free)
Paris	Social housing at the heart of an ambitious renovation programmeWith over 230,000 housing units on 1st January 2016, the housing stock belonging to Paris's social housing providers represents a key challenge for this renovation policy. The City of Paris will continue to support social housing providers in their efforts to renovate their stock on a massive scale. The target is to reduce energy consumption by 35% in all social housing stock by 2030 and 50% by 2050 in relation to 2004, taking account of all improvements made.To achieve these targets, the City will continue to finance the renovation of 4,500 housing units per year in compliance with the low consumption standard. The average savings target will be increased to 60%17 for all of the operations submitted by social housing providers from 2018 onwards, maintaining the maximum target of 80 kWh m ² /year and the requirement of the best performance standards through an energy qualification. The number of renovations will be increased to 5,000 housing units per year as of 2020, which, in particular, will require the housing providers' investment capacities to be guaranteed by the State.

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City Action Details

Buffalo, NY	Buffalo's Energy Master Planspearheads the growth of a green economy by introducing and supporting the development of SolarCity, a 1 million-square-foot site for a solar panel manufacturing facility in South Buffalo. It will be the largest solar panel production facility in the Western Hemisphere, creating more than 3,000 jobs in Western New York and nearly 5,000 jobs in the state. The facility, once it has reached full production, will have more than 1 gigawatt of annual solar capacity. Educational initiatives in Buffalo Public Schools are educating youth in solar technology to prepare the next generation of the community workforce for green jobs. The goals of the Buffalo Energy Plan strengthen the city's long-term competitiveness and economic development by creating a framework that decreases energy costs to residents and businesses, and improves infrastructure and services.
Washington, DC	As of January 1, 2016, DC employers with 20 or more employees are required to offer pre-tax or subsidized commuter benefits for use on Metro, buses, vanpools and other forms of mass transit as part of the DC Commuter Benefits Law. The DC Commuter Benefits Law expanded access to transportation benefits to those who work in the District and, through pre-tax transportation benefit, offered an incentive in the form of up to 40% tax savings on commuting. Additionally, the District's Kids Ride Free program allows students ages 5-21 to ride for free on Metrobus, the DC Circulator, and Metrorail within the District to get to school and school-related activities. There are currently several major car sharing operators in the District, which the city has supported by providing curbside parking permits to operators.
Paris	Pollution-free streets and areas By 2020, the City of Paris will implement a large restricted traffic zone (1st, 2nd, 3rd, and 4th districts) that will not hinder public transport, emergency vehicles, waste collection and cleaning vehicles, residents, and bicycles. This initial experiment may then be duplicated in other Paris neighbourhoods starting in 2020. Ultra-Low Emissions Routes (AUBE) will also be introduced in several Paris neighbourhoods, in which a traffic lane will be permanently reserved in one direction for clean vehicles that run either on Natural Gas for Vehicles (NGV) or electricity. The objective is to reduce overall traffic on that road while encouraging users to adopt low-carbon vehicles. The goal is to introduce these ultra-low emissions routes by 2024.

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City	Action Details
Calgary	Support the implementation of solar photovoltaics
Calgary	Support the implementation of district energy systems
Calgary	Support the implementation of combined heat and power
Calgary	Support community ownership of renewable energy generation
Perth	Personalized Transportation Marketing
Goteburg	Personalized Transportation Marketing
Viernheim	Personalized Transportation Marketing

Climate Shift 1: Tools and Targets		
Climate Shift 2: Low Carbon City and Zero Emissions Transportation		
	Transportation	
	Transportation Marketing	
	Increase Cycling/ Walking Infrastructure	
	Car Free Zones	
	Car Share	
	Enhanced Transit	
	Electrify Transit	
	Electrify Commercial Vehicles	
	Electrify Personal Vehicles	
	Electrify Municipal Fleet	
	Increase City Density	
	Increase Building Use Intensity	
Buildings		
Climate Shift 3: Emissions Neutral Buildings		
	New Residential	
	New Commercial	
	Retrofit Residential	
	Retrofit Commercial	
	Improve Industrial Efficiency	
Climate Shift 4: Renewable Revolution		
	Reduce Waste	
	Heat Pumps	
	Geothermal	
	Air-source Heat Pumps	
	Solar PV Rooftop	1
	Solar PV Ground Mount	
	Expanded District Energy	1
	Energy Storage	
	Wind	
	Renewable Natural Gas	
	Waste Heat	
Climate Shift 6: Negative Emissions		
Climate Shift 5: A Just and Equitable		
		1
		1
		1

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Action Details

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