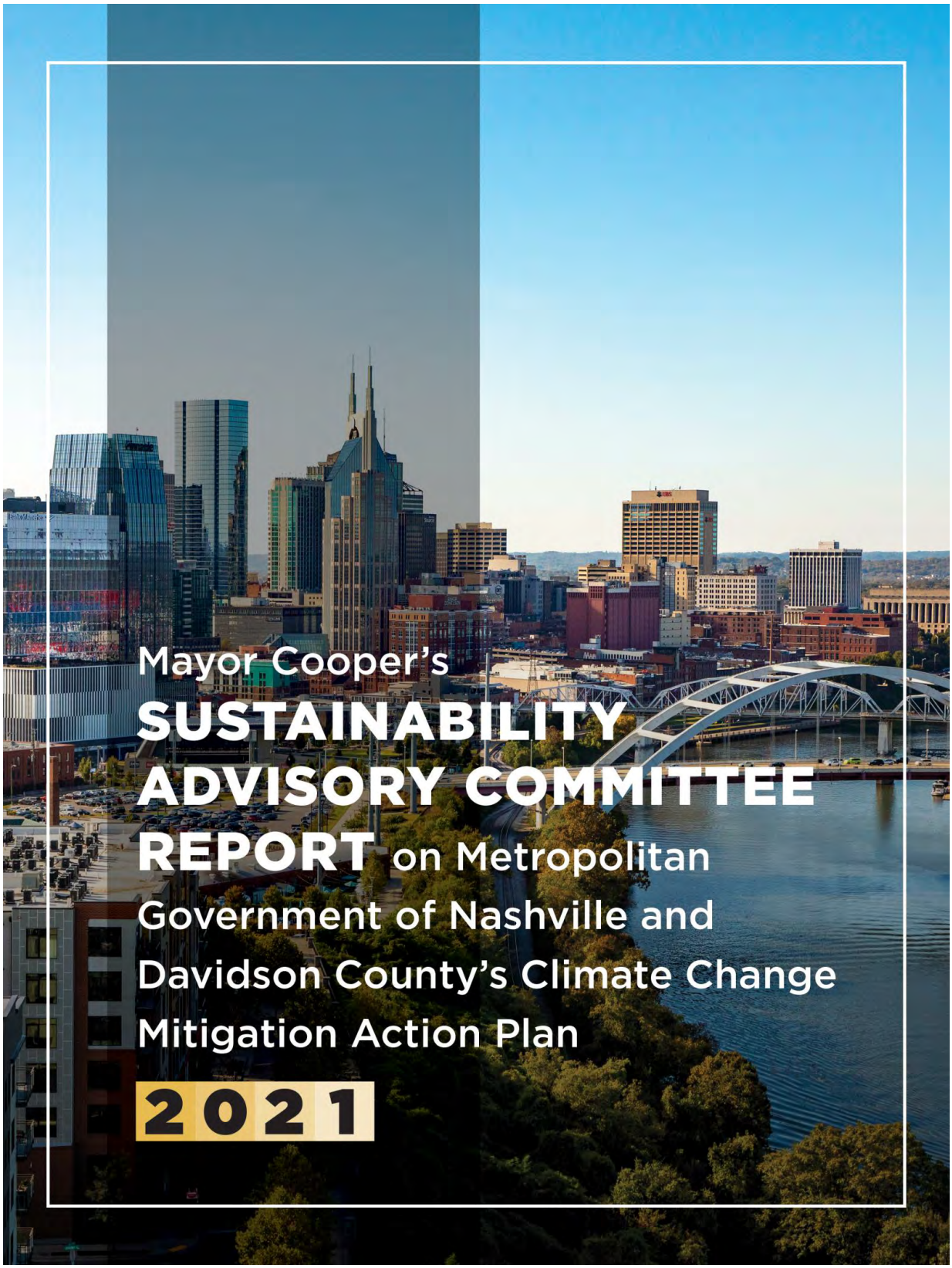


Mayor Cooper's

SUSTAINABILITY ADVISORY COMMITTEE REPORT on Metropolitan Government of Nashville and Davidson County's Climate Change Mitigation Action Plan

2021

Mayor Cooper's Sustainability Advisory Committee Report on
the Metropolitan Government of Nashville and Davidson County's
Climate Change Mitigation Action Plan
Executive Summary
January 2021

Introduction: There is overwhelming scientific consensus that human activities are driving climate change.[i] It is estimated that between 2025-2035, the Metropolitan Government of Nashville and Davidson County (referred to herein as Nashville, Metro or City) will face myriad climate risks, including an increased number of intense storms and tornadoes and more frequent flooding and extreme heat days per year.[ii] Nashville also will be affected by the economic and social disruptions arising from climate change and the regulatory and market responses to climate change in the United States and around the globe.[iii]

In February 2020, Nashville Mayor John Cooper announced the establishment of a standing Sustainability Advisory Committee and charged it with providing advice on a range of sustainability issues. Several months earlier in December 2019, the Mayor announced that his administration had re-joined the Global Covenant of Mayors for Climate and Energy (GCoM).[iv] GCoM is an alliance of over 10,000 cities and local governments that have made commitments to reduce their carbon footprints. Participating cities are required to develop a citywide climate action plan within three years that includes a citywide greenhouse gas emissions target and the emissions reduction actions needed to meet the target.[v]

This report outlines a range of recommendations and actions for Nashville to reduce its contributions to climate change and at the same time ensure a healthy, prosperous, and resilient future. Climate mitigation actions also will have a range of other benefits that include:

- Improved public health;
- Economic inclusion;
- Job creation; and
- Environmental equity.

Recommended Targets: The Committee recommends both a Metro government and community-wide target of **80 percent reduction in annual greenhouse gas emissions from 2014 levels by 2050**. These targets align with international targets adopted by the vast majority of nations. In addition, the targets are consistent with those of many cities, including Nashville's peer cities.[vi]

Forks in the Road/Lock-In Effects: It is critical that the City avoid making decisions in the near term that can ultimately preclude it from achieving its long-range targets, because it is much easier and cheaper to build new facilities and infrastructure with clean technology than to use dirty technology and then replace or retrofit it later. Research indicates that "three essential choices or forks in the road" typically result in 60% to 70% greenhouse gas reductions and make most cities' mitigation goals attainable:[vii]

- **Decarbonization of the electrical grid;**
- **Electrification of motor vehicles**, including fleets and privately-owned vehicles; and
- **Electrification of buildings.**

Leadership Initiatives: The challenge of reducing a city's carbon footprint is significant and demands leadership from and partnership across the public and private sectors. The Mayor enjoys the authority to call on the business, philanthropic, university and non-profit communities to support implementation of

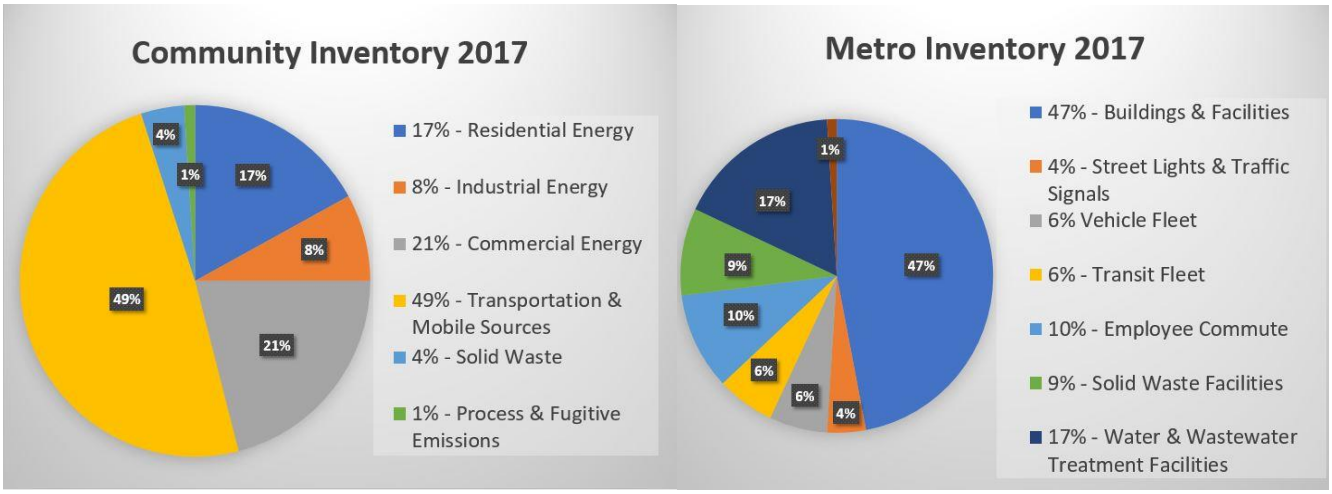
the climate action plan. Leadership initiatives in cities around the country play a significant role in reducing the burden on city staff and municipal agency budgets in implementing their climate action plans. The City's role could range from simply **meeting with leaders from each sector** to request their general support of the climate action plan to more pro-active approaches such as **requesting specific mitigation or project pledges**.

Funding and Financing Strategies: Several of the key mitigation strategies recommended by the Committee do not require large expenditures, such as working with the private sector, NES and TVA to decarbonize the grid. In addition, a full cost picture is encouraged, as in many cases the social and environmental benefits of the recommended actions, including improved public health, will partially or fully offset the financial costs. The Committee recognizes, however, the significant financial cost associated with some of its recommendations and advises the Mayor to **establish a task force to identify feasible green finance and other innovative funding mechanisms** to support the City's climate action plan. Financing options to explore may include: green bonds, fee-for service arrangements, utility investments and philanthropic initiatives, as well as the finance mechanisms and specific grant opportunities summarized in Exhibit IV of the report.

Environmental Equity: Historically—and to this day—communities of color are disproportionately impacted by a wide variety of social inequities that exacerbate environmental and climate inequities. The Committee recommends that the Mayor **establish an environmental equity taskforce** that takes into account the need for procedural equity (those most impacted by climate change are meaningfully engaged in decision-making), distributional equity (fair and just distribution of funding and resources), and structural equity (addressing and reforming the governance structures in Nashville that have led to and perpetuated environmental, economic, and social inequities). The task force could consider specific initiatives such as establishing routinized, replicable processes for ensuring early, continuous, and meaningful involvement from all residents in the development and implementation of the climate action plan; developing or adopting an existing equity screening tool; and exploring a green jobs initiative.

Land Use: Land use policies are critically important to reducing greenhouse gas emissions. Smart and compact development serves to protect open space for parks, farmland, and trees—all of which act as carbon sinks.[viii] Furthermore, transit-oriented, pedestrian-friendly development can shift commute mode share away from single occupancy vehicles and towards more sustainable transportation options. Finally, building smaller homes can reduce average household energy consumption. The subcommittee's recommendations include specific actions to remove barriers, create incentives and address regulatory gaps to achieve more sustainable land use practices.

Nashville's Current Carbon Footprint: Like other cities, Nashville's energy use, transportation and other human activities produce significant greenhouse gas emissions. According to Nashville's 2017 inventory, emissions from Metro government operations totaled roughly 560,000 metric tons—buildings and facilities accounted for the largest portion. Community emissions totaled roughly 11.4 million metric tons— **almost half from transportation and the other half from energy use in commercial, residential, and industrial buildings**.[ix]



Key Mitigation Strategies: Based on the subcommittees' recommendations, as well as a 2019 analysis by CEA Consulting[x] and independent analysis by Vanderbilt Professor Gilligan[xi] and his team, the Committee has identified the strategies that provide the largest mitigation potential.

Decarbonization of the electrical grid: To reach its targets, the City needs to dramatically accelerate the adoption of renewable energy through a multi-faceted approach. Actions could include:

- Install on-site, behind the meter solar that offers cost savings to meet Metro and community goals and encourage quasi-Metro agencies, such as the Metropolitan Nashville Public Schools to do the same;
- Set a community-wide goal of 100% carbon-free electricity by a date certain;
- Encourage NES to offer retail net-metering to all types of customers, whereby they receive credit on their bills for energy they generate and add to the grid;
- Encourage NES to negotiate with TVA to increase the 5% renewables cap through modifying/exiting the existing contract and ensure that new agreements account for the City's climate goals;
- Work with NES to encourage its 100 largest customers to install behind-the-meter solar;
- Encourage NES to fund a large-scale solar array to serve the community's energy needs similar to Knoxville's 502MW solar commitment;[xii]
- Streamline the process for commercial and residential businesses to install renewable electricity with simpler paperwork and faster approval times; and
- Provide fast track permitting for development projects that include significant solar generation.

Electrification of government and community motor vehicle fleets: The City should encourage the adoption of electric vehicles (EV) by Metro government and the community. Potential actions include:

- Provide and maintain critical infrastructure, including charging stations, to support electric vehicles—and explore a partnership with NES to support such efforts;
- Coordinate with Metro Codes to add "EV-Capable" or "EV-Ready" requirements for new single-family homes and multi-family dwellings;
- Work with major employers to identify locations for priority parking with electric vehicle charging infrastructure and programs to promote use among employees;
- Work with car dealerships to ensure electric vehicles are available along with education on electric vehicle features and test drive opportunities;

- Work with Drive Electric TN and other key partners such as NES, TVA, and the State of Tennessee to promote electric vehicles to citizens through education, outreach, and "ride and drive" events; and
- Develop a robust local EV "owners' group" or club to assist with promoting electric vehicles.

Electrification of buildings: The City should incentivize and require, as necessary, measures to forward electrification of new and existing buildings, including replacement of gas appliances with electric appliances. Measures could include:

- Frequently update Metro Nashville Codes to 2018 International Energy Conservation Code standards and support code compliance as well as enforcement;
- Conduct audits to identify low-performing Metro buildings and facilities, and prioritize them for efficiency retrofits, including full electrification;
- Establish carbon targets for new residential buildings and fees for not meeting them and require transparency and disclosure regarding the home energy ratings of existing residential buildings; and
- Establish voluntary energy efficiency performance benchmarks for existing commercial and industrial buildings, universities, schools, and hospitals—and transition to a mandatory program with targets.

Reduction of vehicle miles travelled by passenger vehicles: The City should pursue efforts to:

- Work with Metro Council to enact a Transportation Demand Management program to reform parking policies and work with businesses on commuting options that reduce congestion and pollution;
- Establish dedicated funding for public transit, as several of Nashville's peer cities have done.
- Work with Council to pass a charter amendment to establish a Metro Department of Transportation to coordinate with WeGo and the Metro Planning Department on facilitating multi-modal travel;
- Complete the 91-mile priority bike network by investing $8 million per year for five years and complete the 23-mile CityCentral Greenway to help reduce drive-alone trips; and
- Develop a Vision Zero plan for pedestrian and bicycle safety so residents feel, and are, safer and more comfortable with alternatives to driving, including establishing Safe Routes to School.

Increased energy efficiency in Metro, residential, commercial, and industrial buildings, and facilities: The City should pursue initiatives focused on increasing the energy efficiency of all types of buildings in Nashville, including:

- Work with NES to encourage the 100 largest customers to conduct energy efficiency audits and implement the recommendations;
- Work with NES to provide commercial and residential customers with user-friendly information and options for improving energy efficiency;
- Improve coordination in managing Metro buildings and facilities across trades (mechanical, electrical, plumbing) and across Metro agencies;
- Provide equitable access to energy-efficiency improvements, green energy, and green jobs in low-income and otherwise disadvantaged communities; and
- Explore the use of energy savings performance contracts with energy services companies to finance and install energy efficiency projects, including retrofits, as discussed above.

Reduced food waste disposal in landfills and increased diversion of paper and cardboard recyclables: In order to reduce the City's carbon footprint and help achieve its zero waste goal, the following actions should be taken:

- Establish a Solid Waste Authority and create a separate funding stream for waste management to boost accountability for achieving Metro's Solid Waste Master Plan: Achieving Zero Waste;[xiii]

- Implement Save-as-You-Throw policies for residents and businesses that would require users to pay for the amounts of trash they send to landfills;
- Support a Metro Council ordinance that mandates a Construction and Demolition (C&D) Recycling Deposit System;
- Support siting of a C&D transfer and recycling facility in Davidson County;
- Phase in a ban that prohibits food scraps from trash collection—starting with large generators, then medium to small producers and, finally, residents (once curbside collection is established); and
- Enforce current bans for yard waste, electronics, cardboard.

Additional Mitigation Action Recommendations: Exhibit I of the report includes a consolidated list of the Energy, Buildings, Mobility, Waste and Natural Resources subcommittees' recommendations—and identifies strategies, actions, sub-actions, case statements and, in some cases, capital and operational cost range estimates for the recommended actions.

Outreach and Education: The Committee emphasizes that Nashville's climate action plan will only succeed if the public understands and supports its goals and recommendations. Developing a comprehensive and inclusive outreach and education strategy to reach local stakeholders, the general public, and the City's younger population will be essential.

For more information, contact the co-chairs of Mayor Cooper's Sustainability Advisory Committee:

Linda Breggin
Senior Attorney, Environmental Law Institute
Senior Strategic Advisor, Nashville Food Waste Initiative
Lecturer in Law, Vanderbilt Law School
breggin@eli.org

Eric Kopstain
Vice Chancellor for Administration, Vanderbilt University
eric.kopstain@vanderbilt.edu

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[i] U.S. GLOBAL CHANGE RESEARCH PROGRAM (USGCRP) FOURTH NATIONAL CLIMATE ASSESSMENT: VOLUME II, 25-26 (2018).
[ii] *Nashville*, TEMPERATE: CLIMATE ADAPTATION PLANNING TOOL.
[iii] James Bruggers, *Why tens of thousands of US climate refugees could end up in Kentucky and Indiana*, COURIER JOURNAL (June 1, 2017) (Nashville population may increase over 50,000 due to sea level rise migration).
[iv] *See*, *City Dashboard: Nashville, TN*, GLOBAL COVENANT OF MAYORS FOR CLIMATE AND ENERGY (last visited Oct. 14, 2020).
[iv] *Mayor Cooper Announces Multiple Initiatives to Combat Climate Change and Promote Sustainability, Signs Global Covenant of Mayors*, METRO GOVERNMENT OF NASHVILLE & DAVIDSON COUNTY, TENNESSEE (DEC. 5 2019).
[v] *See*, GLOBAL COVENANT OF MAYORS FOR CLIMATE AND ENERGY, A Definition of Compliance for Cities that Use CDP or ICLEI's Carbon Climate Registry for Reporting (2018).
[vi] *See*, *Declaration*, WE ARE STILL IN (last visited Oct. 14, 2020).
[vii] *See*, Michael P. Vandenbergh & Jonathan M. Gilligan, *Forks in the Road*, Vanderbilt Law Research Paper No. 20-15, Duke Environmental Law & Policy Forum, forthcoming.
[viii] David J. Nowak et al., *Carbon Sequestration by Urban Trees Valued in the Billions of Dollars Annually*, 179 J. ENV'T POLLUTION 229 (2013).
[ix] *See*, *Sustainability Advisory Committee*, METRO GOVERNMENT OF NASHVILLE & DAVIDSON COUNTY, TENNESSEE, (last visited Oct. 21, 2020).
[x] Climate Wedge Analysis for the City of Nashville 2019 (CEA Consulting).
[xi] See, *Jonathan Gilligan*, VANDERBILT UNIVERSITY (last visited Oct. 26, 2020).
[xii] *KUB Commits to 20 Percent Solar by 2023 Using TVA's Green Invest Program*, CITY OF KNOXVILLE (last visited Nov.20.2020); Green Invest Partnership with TVA, Knoxville Utilities Board, (last visited Jan. 9, 2021).
[xiii] CDM SMITH, METROPOLITAN NASHVILLE AND DAVIDSON COUNTY SOLID WASTE MASTER PLAN: ACHIEVING ZERO WASTE (2019).