



A Guide to Powering Our Future

Energy is at the center of our lives. But while all Philadelphians use energy, not all Philadelphians can easily afford its costs. For many residents, energy is the second-greatest household expense after mortgage or rent payments. Using energy more efficiently in our homes and transitioning away from burning fossil fuels to create energy will save money and reduce carbon pollution, which causes climate change. Because our most vulnerable residents are disproportionately harmed by changes in our climate, the transition to a just energy system that is clean and affordable for all is critical to achieving an equitable Philadelphia.

To develop a roadmap for this transition, the Office of Sustainability (OOS) worked with issue experts, advocates, and residents, to create Powering Our Future, which is summarized in this document.

This guide walks through some of the key goals, ideas, and takeaways from Powering Our Future, and can be used to navigate the full report. Page numbers throughout this guide will direct you to more in-depth analysis in the report.



Powering Our Future is Philadelphia's vision for a clean energy future. Read the full report at www.phila.gov/green.

What's In the Report?

Powering Our Future covers three major parts of Philadelphia's energy system: our city's 600,000 buildings, local industry, and the regional electricity system that powers them. These sectors account for nearly 80% of carbon emissions in Philadelphia, and transforming them will be critical to achieving a clean and just energy future.

OOS focused on three primary goals in creating this report:

- **Set new targets** for carbon pollution reduction while taking into account critical factors including equity, health, and economic benefits of a clean energy transition.
- **Educate Philadelphians** about how our energy system works and how we can work together to achieve a clean energy transition.
- **Model the impact** of new programs and policies to transform our energy system across five focus areas (see page 5 of this summary).

Powering Our Future does not cover the second and third largest areas of carbon pollution, transportation and waste. Check out the Zero Waste and Litter Plan and the forthcoming Connect strategic plan for more on cutting carbon emissions in these sectors.



How Was Powering Our Future Developed?

OOS committed to energy planning as part of *Greenworks: A Vision for a Sustainable Philadelphia*, published in November 2016. OOS worked with a consultant to develop a citywide energy model to help assess the current trajectory of energy usage and carbon emissions in Philadelphia.

To gain public input on Philadelphia’s energy future, OOS held several public stakeholder meetings in spring and summer 2017. OOS met with advocacy groups and issue experts, who emphasized the value of an inclusive stakeholder process, focus on industry as a source of carbon emissions, and the benefits of a clean energy system beyond the reduction of carbon pollution.

Based on this outreach, OOS shifted its focus from a shorter-term energy plan to a long-term vision for a Philadelphia that achieves Mayor Kenney’s goal of reducing carbon emissions 80 percent from 2006 levels by 2050 while emphasizing equity and health for all Philadelphians.

Powering Our Future was first published in November 2017 as a public draft. The Office of Sustainability held a public open house on the draft and provided a comment period for stakeholders to offer feedback, which is incorporated into the final report.

CLEAN ENERGY VISION VALUES



CLEAN:

Philadelphians use clean, carbon-free energy to reduce our contributions to climate change and local air pollution.



EFFICIENT:

Philadelphians cut energy waste which saves money and reduces pollution.



RESILIENT:

Philadelphians continue to have access to energy even as climate change increases temperatures, precipitation, and extreme weather.



AFFORDABLE:

Changes to our energy system help reduce utility bills, particularly for vulnerable Philadelphians.



EQUITABLE:

Our energy vision acknowledges historical and existing inequities in how the energy system impacts Philadelphians and works to eliminate those inequities.

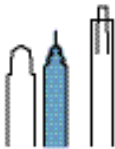
Economic Opportunity from our Clean Energy Vision

Meeting the goal of a clean energy future for Philadelphia will create economic opportunities for residents now and in the years to come. You can find more about the potential for job creation and skills training from a clean energy transition on pages 25, 31, 37, 50, and 54 of the full report.



Philadelphia Carbon Pollution Snapshot


PHILADELPHIA'S CARBON FOOTPRINT (2014)



Buildings & Industry

The majority of Philadelphia's emissions come from its 600,00 buildings, industrial users, and the electricity that powers them.


79%
of citywide emissions



Transportation

Transportation emissions are relatively low in Philadelphia thanks to residents riding SEPTA and other low-carbon options.

17%
of citywide emissions

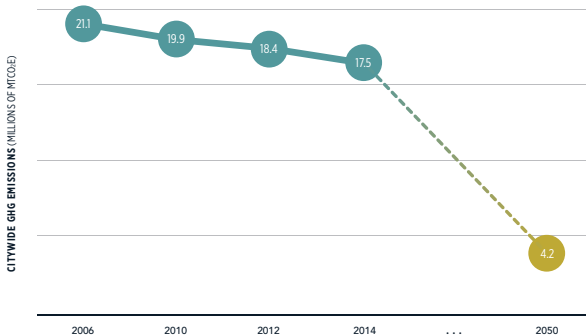


Waste

Sending trash to landfills or incinerating waste for energy contribute to carbon pollution. Meeting our zero waste goal will eliminate this pollution and beautify our streets and communities.

3%
of citywide emissions

PHILADELPHIA'S CARBON TRAJECTORY



Philadelphia has made significant progress in cutting carbon pollution, and we know that the pace of progress must accelerate to meet the Mayor's 80 by 50 commitment. Further reductions in carbon pollution will require significant effort by the City and its residents and businesses, as well as action at the state and federal levels.

Learn about Philadelphia's Energy System

Throughout Powering Our Future you'll find infographics and call-out boxes to help explain how energy works in Philadelphia. Here's a quick guide to find these resources:

- Introduction to Our Electricity Grid (PAGE 12 + 13)
- How Your Home Uses Energy (PAGE 14)
- How to Buy Clean Electricity at Home (PAGE 15)
- Climate Change and Energy (PAGE 16)
- Reducing Home Energy Use (PAGE 39)



Clean Energy Vision Goals at a Glance

Through a series of stakeholder engagement sessions and climate modeling, the City of Philadelphia has identified new goals for meeting its climate action commitments. Our clean energy vision must go beyond climate action and also deliver equity, health, and economic benefits to all Philadelphians.



Cut citywide carbon pollution 25 percent by 2025 from 2006 levels



Reduce carbon pollution from the City-owned buildings and streetlights 50 percent by 2030



Cut citywide carbon pollution 80 percent by 2050 from 2006 levels



Achieve a 100 percent carbon-free electricity grid by 2050



EQUITY: Building a clean energy future for Philadelphia means investing in systems that work for residents and businesses in every zip code of the city.



HEALTH: Cutting air pollution from coal and oil-fired power plants in our region will improve local air quality and lessen the health impacts of climate change.



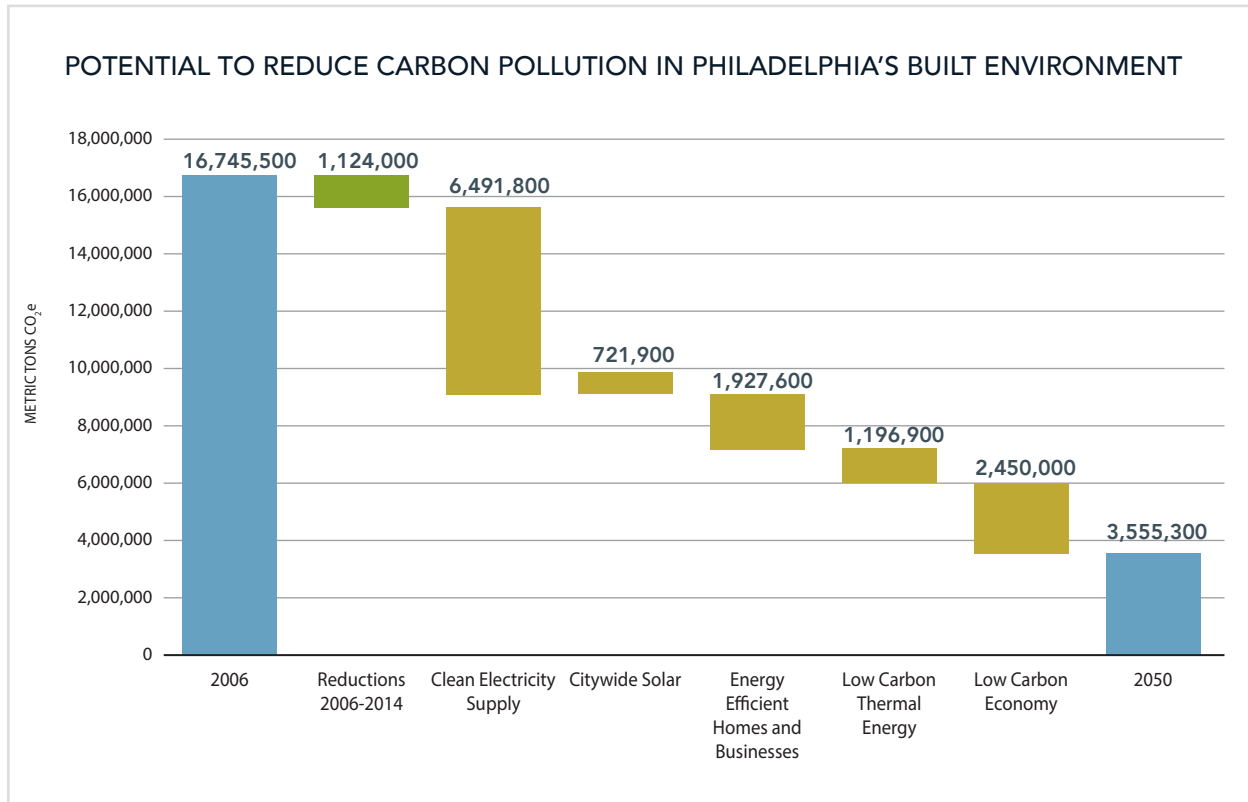
ECONOMY: Our clean energy future must work to eliminate the energy burden for the 33% of Philadelphians struggling to pay bills while creating family-supporting clean energy job opportunities.

What You Can Do

Achieving our clean energy vision will require action from all levels of government, major businesses and institutions, and individuals like you. For tips on how you can work toward a clean energy future, see pages 24, 31, 38, 50, and 55 of the full report.



Meeting Philadelphia's Carbon Reduction Goals



HOW WE'LL GET THERE

Meeting Philadelphia's energy and carbon reduction goals will require work across all levels of government and throughout our community. OOS has grouped this work into five categories:

- Clean Electricity Supply (PAGE 23):** Philadelphia's electricity is generated by power plants not only in Pennsylvania but from a regional grid stretching from New Jersey and Delaware to West Virginia and Ohio. To achieve our goal of reducing carbon emissions 80 percent by 2050, the power plants in our regional grid must generate carbon-free electricity by 2050.
- Citywide Solar (PAGE 30):** As part of the transition toward a cleaner grid, Philadelphians can do our part by installing solar generation on rooftops and other surfaces throughout the city. Like energy efficiency, this strategy can save residents money while spurring economic growth and moving us toward a clean energy future.
- Energy-Efficient Homes and Businesses (PAGE 37):** The Environmental Protection Agency estimates that 30 percent of energy in an average commercial building is wasted. Eliminating this waste in our homes and businesses will save money, improve indoor air quality and tenant comfort, and reduce our reliance on fossil fuel-generated energy.
- Low-Carbon Thermal Energy (PAGE 49):** Most buildings in Philadelphia are currently heated by oil, on-site gas furnaces, or the Veolia steam loop (which uses natural gas to generate heat and electricity). Emerging technologies like microgrids, high-efficiency heat pumps, fuel cells, geothermal and solar heating systems, and renewable biogas can reduce our reliance on fossil fuel energy for heating and domestic hot water.
- Low-Carbon Economy (PAGE 54):** Factories, shipping, and refineries are a major source of carbon pollution within our city. Achieving our clean energy vision will create new clean economic opportunities for residents and businesses. OOS is committed to working with all stakeholders to understand how we can move together to achieve a just, healthy, and low-carbon economy that works for all our residents.



Clean Energy Vision Playbook

For each of the five focus areas, Powering Our Future lays out opportunities to take action to cut carbon pollution, create new economic opportunities, and improve the health of Philadelphians as we transition to a clean energy future. These opportunities are marked with a **Key Players** box to indicate where action is necessary to achieve our goals.

What's Next?

To learn more about how to achieve Philadelphia's clean energy vision, read the full Powering Our Future report at www.phila.gov/green.

The Office of Sustainability (OOS) will publish a Clean Energy Vision Action Plan in Fall 2018, and will continue to update that document to reflect progress toward Philadelphia's clean energy vision and opportunities for new work by the City as well as individuals, communities, and institutions. Keep up to date on OOS's climate action planning by joining our newsletter at www.phila.gov/green.