

MILLVALE ECODISTRICT



MILLVALE ECODISTRICT ROADMAP

Roadmap Adopted on May 19 , 2020

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INTRODUCTION

Millvale's Ecodistrict planning process dates back to a 2011 Pennsylvania Department of Environmental Protection Community Education and Planning Grant. After a yearlong education series and various community engagement activities (including community meetings and street festivals), Millvale worked with primary consultant evolveEA, led by Christine Mondor, to publish the first EcoDistrict Pivot Plan, a roadmap towards sustainable economic development. Three years later, with successful programming in place, Millvale once again partnered with evolveEA and entered into a performance evaluation and calibration phase, with significant community input to inform program development.

Within the larger EcoDistrict framework and imperative guidelines, Millvale's Ecodistrict focuses on six quality of life issues: water, food, energy, air quality, mobility, and equity. These focus areas were selected by community members as being most critical to their livelihoods and well-being within the Millvale District, which reflects Borough municipal boundaries (confined to 0.68 square miles). Water was chosen to work towards addressing both acute flash flooding events and chronic basement flooding due in part to wide-scale suburban development in the region that reduces permeable surfaces. Food was chosen in order to reverse food insecurity within Millvale, a USDA identified food desert. Energy was made a priority in order to instill energy independence as well as create disaster resilience through renewable energy production and energy efficiency. Air quality was made a priority area in order to increase community understanding and reduce negative health impacts of poor regional air quality. Mobility was chosen to better facilitate connectivity both within the Millvale community and to opportunities outside of the community for all. Equity, though seen as an umbrella over the entire Pivot Plan, was identified as a stand alone programming area in order to prioritize reducing the impacts of gentrification, increasing access to education, and creating pathways out of poverty for our community.

Community members workshopped to create Vision Statements in each of the focus areas that reflect their own vision of a vibrant Millvale community where everyone has the opportunity to thrive:

- *Water: Millvale is part of a just watershed system known for productive and pleasurable landscapes.*
- *Food: Millvale is a foodie paradise for everyone and is known for hyperlocal production.*
- *Energy: Millvale is a self reliant urban solar village.*
- *Air Quality: Millvale is a clean air community where people breathe easy indoors and outdoors.*
- *Mobility: Millvale is a place where people of all ages have the freedom to move safely.*
- *Equity: Millvale is a place of self-determination, where all Millvalians are able to participate and shape their own futures as well as the future of Millvale.*

With the Pivot Plan 2.0 in hand, the Millvale Ecodistrict Collaborative team, consisting of the Borough of Millvale as the Backbone Organization, as well as the Millvale Community Development Corporation, New Sun Rising, and Millvale Community Library as founding organizations, attended the 2016 EcoDistricts Incubator in Portland, OR and the 2019 EcoDistricts Incubator in Millvale, PA. With a core team informed and educated in the newly published EcoDistrict Protocol, Millvale adopted and drafted their Declaration of Collaboration later in 2016, and evolved their Imperatives Commitment and Roadmap in 2020.

The Millvale Ecodistrict Pivot 2.0 Plan was published before the establishment of the EcoDistricts Protocol and therefore was not initially prepared in conformance with the Protocol. This document (the Millvale Ecodistrict Roadmap) provides additional content that is not found in the Pivot 2.0 Plan, and acts as a crosswalk to describe the location of Pivot Plan 2.0 contents as it corresponds to the sections of the EcoDistricts Roadmap Template.

The Millvale Ecodistrict Roadmap has been adopted by the Millvale Ecodistrict Collaborative team, including the Borough of Millvale, the Millvale Community Development Corporation, New Sun Rising, and the Millvale Community Library, through a consensus-based process in which each of the four Collaborative member organizations has one vote. In anticipation of the vote, each organization was provided a copy of the Millvale Ecodistrict Roadmap and the Millvale Pivot 2.0 Plan so that they could review the Roadmap and verify its alignment with the Millvale Ecodistrict's community goals. The Millvale Ecodistrict Roadmap was adopted with a vote of four in favor. The Roadmap will now formally become a part of the Millvale Pivot 2.0 Plan as an appendix item.

The name and affiliations of the adopters of the Millvale Ecodistrict Roadmap include:

- James Machajewski, Millvale Borough Council President
- Scott Wolovich, New Sun Rising Executive Director
- Jamie Hahn, Millvale Community Development Corporation Vice President
- Melissa Mason, Millvale Community Library President

The Millvale Ecodistrict Roadmap was adopted by Millvale Borough Council as an addendum to the Borough's Joint Comprehensive Plan (River Bend) in **April 2020** as well. The names and affiliations of the adopters of Millvale's Borough Council include:

- Brian Spoales, Mayor
- James Machajewski, Council President
- Al Atkinson, Council Vice President
- William G. Stout, Councilman
- Jack Varley, Councilman
- Paul Bossung, Jr., Councilman
- Katie Dembowski, Councilwoman
- Patty Sorg, Councilwoman

DISTRICT BOUNDARY

The Millvale Ecodistrict is a coordinated team of people and organizations committed to support and fulfill the Millvale Ecodistrict Plan. The physical boundaries of the Millvale Ecodistrict align with the legal municipal boundary of the Borough of Millvale (See Figure 1), an area of approximately 0.7 square miles.



Figure 1: Map of Millvale highlighting the district boundary in a white outline.

PRIORITY- BASED ASSET MAP

Millvale is rich with existing assets, and is working to build from these existing assets while filling gaps. A detailed map of the Millvale Ecodistrict's assets can be found in [Appendix D, Millvale Priority-Based Asset Map](#). The Millvale Priority-Based Asset Map is an interactive map that displays the Millvale Ecodistrict's assets, organized by EcoDistricts Protocol Priority area as well as socioeconomic, physical, and organizational categories. Assets are also organized based on degree of control; Primary assets are located within Millvale and are controlled within Millvale, secondary assets are located in Millvale but are controlled by an entity outside of Millvale, and tertiary assets are located outside of Millvale and are controlled by an entity outside of Millvale.

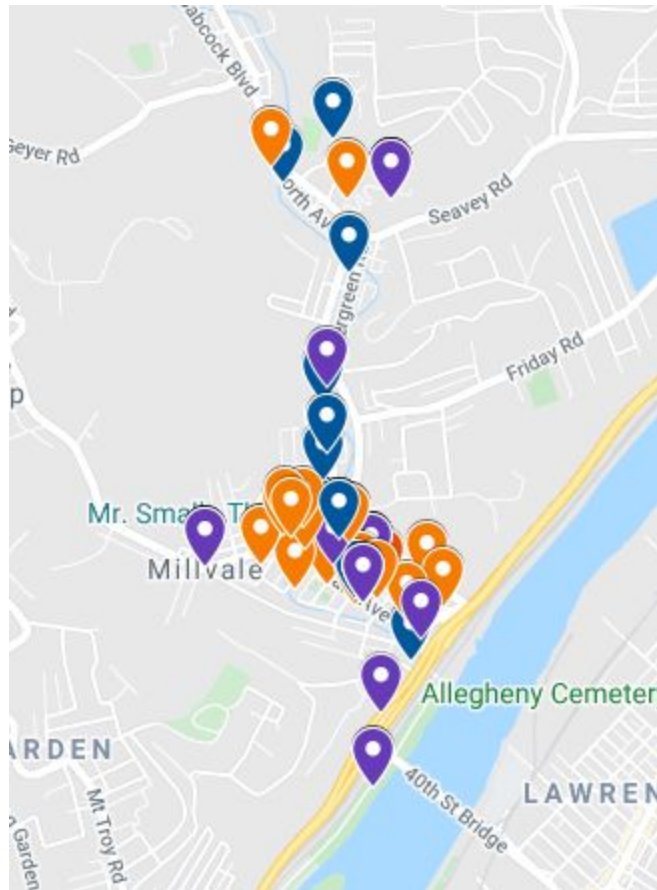


Figure 2: Screen capture of the Millvale Ecodistrict's Priority-Based Asset Map.

CENSUS OF LOCAL PLANS

The following table and narrative describes existing policies, programs, and plans on the municipal, regional, and county scales that are applicable to the Millvale Ecodistrict.

Figure 3: Existing policies, programs, and plans on the municipal, regional, and county scale that are applicable to the Millvale Ecodistrict.

Existing Policies, Programs, and Plans	Geography
Millvale Floodplain Management Ordinance (#2566)	Municipal (Millvale)
Millvale Complete Streets Resolution	Municipal (Millvale)
Millvale Pivot 1.0 Plan	Municipal (Millvale)
Millvale Pivot 2.0 Plan	Municipal (Millvale)
Breathe Easy: Millvale Air Quality Plan	Municipal (Millvale)
Millvale, Sharpsburg, & Etna Joint Comprehensive Plan (River Bend)	Municipal (Triboro)
Sustainable Pittsburgh Regional Indicators	Regional (City of Pittsburgh)
City of Pittsburgh Resilience Plan	Regional (City of Pittsburgh)
City of Pittsburgh Climate Action Plan	Regional (City of Pittsburgh)
City of Pittsburgh Roadmap to Zero Waste Study	Regional (City of Pittsburgh)
Allegheny County Health Department (ACHD) Environmental Justice Report	County (Allegheny County)
Allegheny County Health Department (ACHD) Health Equity Briefs	County (Allegheny County)
Pennsylvania State Incentives for Renewables and Efficiency	State (Pennsylvania)
Pennsylvania Climate Action Plan	State (Pennsylvania)

[Millvale Floodplain Management Ordinance \(#2566\)](#)

Millvale’s Floodplain Management Ordinance was adopted by Borough Council in September 2014 and complies with FEMA requirements. The intention of this ordinance is to:

- Promote the general health, welfare, and safety of the Borough of Millvale.
- Encourage the utilization of appropriate construction practices in order to prevent or minimize flood damage in the future.
- Minimize danger to public health by protecting water supply and natural drainage.
- Reduce financial burden imposed on the community, its governmental units, and its residents, by preventing excessive development in areas subject to flooding.
- Comply with federal and state floodplain management requirements.

Applicable Imperatives & Priorities: This ordinance is related to Living Infrastructure (managing stormwater for ecosystem health, improving natural features), as well as Resource Regeneration (improving water quality) and Resilience (preventing shocks and stresses).

[Millvale Complete Streets Resolution](#)

The Borough of Millvale adopted a Complete Streets Resolution (#2694) in August 2018. The intention of the resolution is to better integrate physical activity into the daily lives of those who live in and visit Millvale through an increased emphasis on various active transportation modes. This will ultimately contribute to improved health, reduced traffic congestion, improved air quality, a reduction of harmful environmental impacts, and the creation of an economically vibrant and sustainably progressive community. Various recommendations are included in the resolution, such as bicycle parking, crosswalks, and transit shelters.

Applicable Imperatives & Priorities: This resolution primarily addresses Health and Wellbeing (active living and safety) and Connectivity (street network and mobility).

[Millvale Pivot 1.0 Plan](#)

Completed in 2013, the Millvale Pivot 1.0 Plan provides a community-wide assessment around the quality of life areas of water, food, and energy. The plan provides a conceptual framework of goals and strategies that preserve, replenish, and maximize the use of resources within the Borough. Catalytic projects were identified as the focus of future in-depth planning, which set the stage for the Millvale Pivot 2.0 Plan.

Applicable Imperatives & Priorities: This plan addresses Resilience (reducing flooding) and Climate Protection (reducing carbon-based energy consumption), as well as Place (engagement and inclusion, culture and identity, public spaces, and housing), Health and Wellbeing (food systems), Living Infrastructure (natural features, ecosystem health, and connection with nature), and Resource Regeneration (water).

[Millvale Pivot 2.0 Plan](#)

Completed in 2016, the Millvale Pivot 2.0 Plan builds from Pivot 1.0 by expanding Millvale's Ecodistrict goals and strategies to include air quality, mobility, and equity (which acts as an umbrella over the other five quality of life areas), as well as updates to energy, food, and water. Pivot 2.0 provides the tools to increase Millvale's depth of commitment and breadth of adoption, in addition to acting as the community's EcoDistrict Roadmap. The plan also includes place-based recommendations as well as a frameworks analysis.

Applicable Imperatives & Priorities: This plan addresses all Imperatives and Priorities.

[Breathe Easy: Millvale Air Quality Plan](#)

Completed in late 2016, the Breathe Easy Millvale Plan is a deep-dive into the Millvale Ecodistrict's air quality of life issue area. The process included community education and awareness building, as well as real-time data monitoring. The resulting plan recommends future actions and projects to catalyze change at the individual scale, borough scale, and across the region.

Applicable Imperatives & Priorities: This plan addresses Equity (health and engagement around air quality), Resilience (stresses of poor air quality), and Climate Protection (relationship between carbon-based energy consumption and poor air quality), as well as Place (engagement and inclusion, culture and identity, public spaces, and housing), Health and Wellbeing (active living, health), Connectivity (mobility), Living Infrastructure (natural features, ecosystem health, and connection with nature), and Resource Regeneration (air and climate and water).

[Millvale, Etna, and Sharpsburg Joint Comprehensive Plan \(River Bend\)](#)

Completed in 2014, the River Bend Joint Comprehensive Plan includes Millvale, Etna, and Sharpsburg. The plan addresses issues of governance and long term planning related to municipal operations, land use, transportation, etc. This initial collaboration allowed each Borough to share a zoning map to better distribute zoning requirements across the three Boroughs and led to the Triboro Ecodistrict Initiative.

Applicable Imperatives & Priorities: This plan addresses Place (with recommendations related to public spaces and housing), Prosperity (addressing economic development and vitality), Health and Wellbeing (recommendations for a “food niche”), Connectivity (improvements related to street network and mobility), Living Infrastructure (connecting residents to nature and improving natural features), and Resource Restoration (land use recommendations and gardens to improve air quality).

Sustainable Pittsburgh Regional Indicators

The regional nonprofit, Sustainable Pittsburgh, has developed a set of regional indicators that can be both a dataset and a benchmark for the municipality. The indicators are organized by People, Planet, Place, and Performance (P4) and many of the recommendations and data address equity issues.

Applicable Imperatives & Priorities: These indicators address social equity (racial equity, poverty, social capital, cost of living, and equity of political representation); place (crime, housing, land use, cultural life, and voting); prosperity (unemployment, graduation rates, and wages); health and wellbeing (general health, health care accesses, infant health, recreational opportunities, and mental health); connectivity (internet access and mobility); living infrastructure (water quality: combined sewer overflows and bromide and total dissolved solids, ecosystem health, and environmental ethics); and resource regeneration (air quality, energy use, waste and recycling, and toxic emissions).

City of Pittsburgh Resilience Plan

Adopted in 2017, Pittsburgh’s OnePGH resilience plan was launched after two years in the Rockefeller Resilient Cities program. The plan addresses many of the same issues as Millvale and, although there is no shared jurisdiction, the future of Millvale is affected by the successes and failures across the river. The issues are organized by people, planet, place, and performance.

Applicable Imperatives & Priorities: This plan addresses resilience (shocks, stresses, and resilience planning) and prosperity (access to opportunity and economic development).

City of Pittsburgh Climate Action Plan

The City of Pittsburgh recently adopted the PCAP 3.0, which includes a carbon inventory and strategies for improvement. Within this plan are 2030 District Goals that set national standards for high performance buildings by committing properties to a 50% reduction in energy use, water consumption, and transportation emissions by 2030, while improving indoor air quality. The Millvale Ecodistrict can use the PCAP 3.0 as a resource and potential model to reduce the Borough’s carbon footprint and transition to carbon neutrality.

Applicable Imperatives & Priorities: This plan is focused on Resource Regeneration (reducing greenhouse gas emissions, renewable energy, and reducing waste). It also touches upon Health & Wellness (food system).

City of Pittsburgh Roadmap to Zero Waste Study

The City of Pittsburgh completed the 2017 study to understand how to improve its municipal services. The study can be referenced by Millvale but has no jurisdictional authority.

Applicable Imperatives & Priorities: This study addresses health and wellbeing (food systems, living infrastructure, and ecosystem health); and resource regeneration (waste).

Allegheny County Health Department (ACHD) Environmental Justice Index

ACHD compared federal and state environmental justice criteria with a locally weighted index that identified communities like Millvale as “Environmental Justice” communities.

Applicable Imperatives & Priorities: This index addresses social equity (median household income and racial demographics); place (housing vacancy); prosperity (educational attainment); living infrastructure (proximity to green space); and resource regeneration (air quality).

[Allegheny Health Department \(ACHD\) Health Equity Briefs](#)

At the county level, the Allegheny County Health Department has published Health Equity Briefs (published in 2018) on [Health Access, Chronic Disease and Risk Behaviors](#), [Environment, Maternal and Child Health](#), and [Mental Health and Substance Use](#) that describe the causes of differences in the quality of health across different populations and municipalities in Allegheny County, including Millvale. The briefs identify disparities related to chronic diseases, access to healthcare, the environment, maternal and child health, and mental health and substance abuse.

Applicable Imperatives & Priorities: These briefs primarily address Health and Wellbeing.

[Pennsylvania State Incentives for Renewables and Efficiency](#)

At the state level, there are a number of different incentives for renewables and efficiency to encourage individuals to be more energy efficient and transition to alternative fuel for their homes and/or vehicles. These include tax credits, rebates, and loan programs, including but not limited to Tax Credits for Consumer Renewable Energy and Energy Efficiency Products, the Alternative Fuel Vehicle (AFV) Rebate Program, and the Keystone Home Energy Loan Program. The Millvale Ecodistrict will consider these programs as options to share with the community when pursuing initiatives to reduce resident energy burden and encourage the use of alternative fuel.

Applicable Priorities: These incentives are focused on Resource Restoration (reducing greenhouse gas emissions, renewable energy, and energy efficiency).

[Pennsylvania Climate Action Plan](#)

The Pennsylvania Climate Action Plan is required by the Pennsylvania Climate Change Act of 2008. The Department of Environmental Protection and the Climate Change Advisory Committee (CCAC) completed this Plan in 2019. The Plan identifies GHG emission and sequestration trends and baselines in the Commonwealth; evaluates cost-effective strategies for reducing or offsetting GHG emissions; it identifies costs, benefits, and co-benefits of recommended reduction strategies; and recommends legislative changes needed to implement the Plan.

Applicable Priorities: This Plan addresses Prosperity (economic development); Health and Wellbeing (health and food systems); Connectivity (mobility); Living Infrastructure (natural features and ecosystem health), and Resource Regeneration (air and climate, water, and waste).

It can be seen from the review of local plans that there are several Priorities that are not currently being addressed. The Millvale Ecodistrict Roadmap seeks to align with existing plans and fill gaps in the areas of Place (engagement and inclusion, culture and identity, public spaces, and housing), Prosperity (economic development and innovation), Health and Wellbeing (active living, safety, and food systems), Connectivity (street network, mobility, and digital network), Living Infrastructure (natural features), and Resource Regeneration (water).

ONGOING AND IMMINENT ACTIVITIES

There are no ongoing or imminent activities by entities other than the Millvale Ecodistrict that should be considered during Roadmap preparation.

PRIORITIES & OBJECTIVES

The Millvale Pivot 2.0 Plan contains a series of community-identified goals and actions for each Quality of Life Issue. These goals are equivalent to the objectives described in the EcoDistricts Certified Handbook. While the Millvale Pivot 2.0 Plan is not organized by the EcoDistrict Priorities, the goals do address the priority objective categories. The goals have been slightly modified and supplemented to more explicitly address the priority objective areas, in alignment with the community-established goals.

Figure 4: The Millvale Ecodistrict's Goals as related to each EcoDistrict Priority Objective Category. Please note that this is not a comprehensive list of Millvale's Goals. Also, the Goals below have been slightly modified and supplemented to more explicitly address each of the priority objective areas. More information on the Millvale Ecodistrict Roadmap Priorities & Objectives can be found in [Appendix A Millvale Ecodistrict Pivot 2.0 Plan](#), pages 25 - 113 and [Appendix C Millvale Ecodistrict Roadmap Actions](#).

EcoDistrict Priority	EcoDistrict Objective	Millvale Ecodistrict Goal <i>(equivalent to EcoDistricts Objective)</i>	QoL Area
Place	Engagement & Inclusion	Create Pathways for Participation in the Ecodistrict planning and implementation process.	Equity
Place	Culture & Identity	Create an informed and activated culture where residents believe in, participate in, and are known for ecodistricts-	Air
Place	Public Spaces	Create high quality and accessible public spaces that improve quality of life and are in support of the community's ecodistrict goals and incorporate ecodistrict strategies.	Air
Place	Housing	Maintain naturally affordable housing and build community wealth.	Equity
Prosperity	Access to Opportunity	Develop or connect residents with green job training programs that benefit the current population as well as attract new residents.	Energy
Prosperity	Economic Development	Support existing businesses and attract new businesses by improving sidewalk culture and safety.	Mobility, Water
Prosperity	Innovation	Accelerate the emerging entrepreneurial food scene to create jobs and expand access to fresh and affordable food.	Food
Health & Wellbeing	Active Living	Enhance safety through complete streets improvements.	Mobility
Health & Wellbeing	Health	Improve air quality and related health outcomes.	Air
Health & Wellbeing	Safety	Increase adoption of active transportation by accelerating installation of biking and walking infrastructure.	Mobility
Health & Wellbeing	Food Systems	Encourage local food production by increasing the area of community gardens.	Food
Connectivity	Street Network	The street network supports all modes of transportation, especially walking, biking, and public transportation.	Mobility
Connectivity	Mobility	Increase the use of alternative transportation and better	Mobility

		connect Millvale to the region.	
Connectivity	Digital Network	Gather and establish an ecodistricts baseline that is publicly accessible online.	Equity
Living Infrastructure	Natural Features	Enhance the quality of Girty's Run through the creation of a watershed authority.	Water
Living Infrastructure	Ecosystem Health	Manage stormwater in the district using green infrastructure projects.	Water
Living Infrastructure	Connection with Nature	Connect residents to nature with public green space that is both enjoyable and performative.	Air
Resource Regeneration	Air & Climate	Expand visibility and viability of renewable energy technologies in the community.	Energy
Resource Regeneration	Water	Reduce quantity of Combined Sewer Overflows (CSOs) by reducing the Base Flood Elevation (BFE).	Water
Resource Regeneration	Waste	Track Millvale's materials metabolism and increase the community's diversion rate.	Food

INDICATORS

The Millvale Pivot 2.0 Plan contains a series of community-identified indicators for each Quality of Life Area. The Millvale Pivot 2.0 Plan, while not organized by the EcoDistrict Priorities, does include at least one indicator for each of the priority objective categories, as shown in Figure 5. Please see [Appendix B Millvale Ecodistrict Roadmap Indicators](#) for the baseline performance and performance targets for each indicator.

Figure 5: The Millvale Ecodistrict's Indicators as related to each EcoDistrict Priority Objective Category. The baseline performance and performance targets for each indicator can be found in [Appendix B. Millvale Ecodistrict Roadmap Indicators](#).

EcoDistrict Priority	EcoDistrict Objective	Millvale Ecodistrict Indicator	Direction
Place	Engagement & Inclusion	Percentage of residents engaged in civic activity	Increase
Place	Culture & Identity	Number of residents participating in ecodistrict-related events	Increase
Place	Public Spaces	Number of community events programmed annually for outdoor public spaces, including streets	Increase
Place	Housing	Percentage of permanently affordable housing units	Increase
Prosperity	Access to Opportunity	Percentage of residents with a GED; Percentage of residents with a college degree and/or vocational training	Increase
Prosperity	Economic Development	Employment rate	Increase
Prosperity	Innovation	Number of restaurants participating in the Sustainable Pittsburgh Restaurant program	Increase
Health & Wellbeing	Active Living	Millvale's WalkScore	Increase
Health & Wellbeing	Health	Percentage of residents with health insurance (including medicaid and medicare)	Increase
Health & Wellbeing	Safety	Number of reported transportation crashes annually	Decrease
Health & Wellbeing	Food Systems	Number of transactions at Green Grocer; Dollars spent at Green Grocer	Increase
Connectivity	Street Network	Number of sharrows	Increase
Connectivity	Mobility	Traffic count on state roads; Alternative transportation rate	Decrease
Connectivity	Digital Network	# of public spaces where free wifi is available; # of computers available for public use that have access to the internet	Increase
Living Infrastructure	Natural Features	Percent of Borough with shade tree canopy	Increase

Living Infrastructure	Ecosystem Health	Number of green infrastructure projects; Dollars invested in green infrastructure projects	Increase
Living Infrastructure	Connection with Nature	Acres of public green space	Increase
Resource Regeneration	Air & Climate	Number of days with good air quality annually (AQI attainment)	Increase
Resource Regeneration	Water	Number of Combined Sewer Overflow (CSO) events annually	Decrease
Resource Regeneration	Waste	Number of businesses participating in waste reduction programs	Increase

EXISTING CONDITIONS & BASELINE PERFORMANCE ASSESSMENT

The existing conditions of the Millvale Ecodistrict are documented in Millvale Pivot 1.0, Millvale Pivot 2.0, and the attached Appendices. This includes:

- **Demographics** - [Millvale Pivot 1.0](#), pages 9-11
- **Land use** - [Millvale Pivot 1.0](#), page 16
- **Housing** - [Millvale Pivot 1.0](#), pages 9-11
- **Employment** - [Millvale Pivot 1.0](#) pages 9-11 and [Appendix B, Millvale Ecodistrict Roadmap Indicators](#)
- **Education facilities & programs** - [Millvale Pivot 2.0](#) page 14, 84-87 and [Appendix B, Millvale Ecodistrict Roadmap Indicators](#)
- **Recreation facilities and programs** - [Millvale Pivot 2.0](#) page 14
- **Historic and cultural resources** - [Millvale Pivot 2.0](#) pages 84-87 and [Appendix B, Millvale Ecodistrict Roadmap Indicators](#)
- **Health and human services** - [Millvale Pivot 2.0](#) pages 72-75, 84-87, [Breathe Easy Plan](#) pages 20-21, and [Appendix B, Millvale Ecodistrict Roadmap Indicators](#)
- **Public safety** - [Millvale Pivot 2.0](#) page 14 and [Appendix B, Millvale Ecodistrict Roadmap Indicators](#)
- **Transportation infrastructure and services** - [Millvale Pivot 1.0](#) pages 9-11, [Millvale Pivot 2.0](#) pages 14, 60-61, and [Appendix B, Millvale Ecodistrict Roadmap Indicators](#)
- **Water infrastructure** - [Millvale Pivot 1.0](#) pages 32-37, 44-47, [Millvale Pivot 2.0](#) pages 10-11, and [Appendix B, Millvale Ecodistrict Roadmap Indicators](#)
- **Wastewater infrastructure** - [Millvale Pivot 1.0](#) pages 32-37, 44-47, [Millvale Pivot 2.0](#) pages 10-11, and [Appendix B, Millvale Ecodistrict Roadmap Indicators](#)
- **Stormwater infrastructure** - [Millvale Pivot 1.0](#) pages 32-37, 44-47, [Millvale Pivot 2.0](#) pages 10-11, and [Appendix B, Millvale Ecodistrict Roadmap Indicators](#)
- **Natural environment features** - Incorporated throughout [Millvale Pivot 1.0](#), [Millvale Pivot 2.0](#), [Breathe Easy Plan](#), and [Appendix B, Millvale Ecodistrict Roadmap Indicators](#)
- **Climate** - [Millvale Pivot 1.0](#) pages 16-20, [Millvale Pivot 2.0](#) pages 12-13, 24-25
- **Baseline year indicator results** - [Appendix B, Millvale Ecodistrict Roadmap Indicators](#)

Baseline Energy Use and CO₂ Emissions Inventory

Millvale's baseline energy consumption and CO₂ emissions inventory was established using the ICLEI Protocol and establishes a baseline year of 2017, documented in the table and narrative below. There is no energy consumption or carbon emissions related to infrastructure (wastewater treatment facilities, landfills, etc.) within the physical boundary of Millvale, and is therefore considered Scope 3 emissions. The energy baseline and CO₂ emissions inventory only accounts for Scope 1 and Scope 2 emissions as described in the Global GHG Protocol and the EcoDistricts Certified Handbook (page 56).

ICLEI's GHG Emissions Inventory Protocol and Clearpath software was used to inform the baseline energy performance and CO₂ emissions inventory, as well as train schedules, the Bureau of Transportation Statistics, and the Borough of Millvale's utility bills. The process abides by the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories.

Figure 6: Millvale’s baseline energy consumption in million BTU/year for the 2017 calendar year.

Energy End Uses	Scope 1			Scope 2			Total Annual Energy Use	% of Total Annual Energy Use
	Buildings Using Natural Gas	Transp. Using Gasoline	Transp. Using Diesel	Grid-Supplied Electricity				
				Buildings Using Electricity	Transp. Using Electricity	District Infra.		
BUILDINGS								
Residential	133,417	-	-	40,417	-	-	173,834	41.5%
Non-Residential	30,955	-	-	32,955	-	-	63,910	15.2%
Buildings Subtotal	164,372	-	-	72,773	-	-	237,744	56.7%
TRANSPORTATION								
On-Road Transportation	-	147,550	30,911	-	0	-	178,461	42.6%
Railroads	-	-	2,681	-	-	-	2,681	0.6%
Transportation Subtotal	-	147,550	33,592	-	0	-	181,142	43.2%
INFRASTRUCTURE								
Street Lights	-	-	-	-	-	314	314	0.07%
Traffic Control	-	-	-	-	-	145	145	0.03%
Infrastructure Subtotal	-	-	-	-	-	459	459	0.10%
TOTAL								
District Total	164,372	147,550	33,592	72,773	0	459	419,345	100%

Figure 7: Millvale's baseline CO2 emissions in metric tons/year for the 2017 calendar year.

Energy End Uses	Scope 1			Scope 2			Total Annual CO2 Emissions	% of Total Annual CO2 Emissions
	Buildings Using Natural Gas	Transp. Using Gasoline	Transp. Using Diesel	Grid-Supplied Electricity				
				Buildings Using Electricity	Transp. Using Electricity	District Infra.		
BUILDINGS								
Residential	7,094	-	-	6,725	-	-	13,819	38.9%
Non-Residential	2,231	-	-	5,385	-	-	7,616	21.5%
Buildings Subtotal	9,325	-	-	12,110	-	-	21,435	60.4%
TRANSPORTATION								
On-Road Transportation	-	11,502	2,262	-	0	-	13,764	38.8%
Railroads	-	-	196	-	-	-	196	0.5%
Transportation Subtotal	-	11,502	2,458	-	0	-	13,960	39.3%
INFRASTRUCTURE								
Street Lights	-	-	-	-	-	65	65	0.2%
Traffic Control	-	-	-	-	-	30	30	0.1%
Infrastructure Subtotal	-	-	-	-	-	95	95	0.3%
TOTAL								
District Total	9,325	11,502	2,458	12,110	0	95	35,490	100%
ADJUSTED BASE YEAR EMISSIONS								
On-Site Sequestration*	-	-	-	-	-	65	65	0.2%
On-Site Renewable Energy Production	-	-	-	76	-	-	76	0.2%
Excess Renewable Power Sales Offsets	-	-	-	743	-	33	776	2.0%
Adjusted District Total	-	-	-	11,291	-	-3	34,573	100%

*In Pennsylvania, on average, trees can sequester 1.0 ton of carbon per hectare per year (t/ha/yr). (Dwyer et al., 2000; Nowak et al., 2001)

EXISTING LOCAL TARGETS AND PARALLEL EFFORTS

There are currently no existing policies, programs, or plans on the municipal, regional, or county scales that set future performance targets that are applicable to the Millvale Ecodistrict. The Millvale Ecodistrict has chosen to align with Pittsburgh’s Climate Action Plan and Pittsburgh’s 2030 District performance targets of reducing energy use, water consumption, and transportation emissions by 50% by the year 2030.

Programs operated by entities other than the Millvale Ecodistrict that serve Millvale and have been included in calculating the achievement of 2030 performance targets have been described in the “Who” section that accompanies each indicator in [Appendix B, Millvale Ecodistrict Roadmap Indicators](#).

ROADMAP HORIZON YEAR

The Millvale Pivot 2.0 Plan’s horizon year is the year 2030. This is in alignment with the Triboro Ecodistrict’s horizon year and regional efforts related to the 2030 Challenge. The Millvale Ecodistrict aims to be a carbon neutral community by the year 2050.

DISTRICT BUILD OUT ESTIMATE

The Borough of Millvale is a densely populated community, with approximately 3,679 residents within approximately 0.68 square miles. This leaves little room for infill development or new construction projects. To account for this, building reuse is prioritized to improve underutilized buildings and bring new amenities to Millvale, in addition to a few new construction projects. Over the next ten years, the Millvale Pivot 2.0 Plan proposes one new construction project (a mixed use development composed of four separate buildings) and four renovation projects (Stone Soup Cafe and Food Hub, Affordable Housing Development, Restaurant Cluster [multiple buildings], and a Community Land Trust [20 units]).

It is anticipated that these projects will result in a slight population increase, bring new jobs to Millvale, and contribute to Millvale’s performance targets. More specifically, the impact of these initiatives will result in a population increase of 170 residents (increase of 5%) and 110 to 190 new jobs (increase of 9% to 16%). However, it must be noted that not all place-related projects proposed in the Millvale Pivot 2.0 Plan will be achieved by the year 2030, if at all. Additionally, these projects must be implemented in tandem with the Ecodistrict Actions to achieve the performance targets. Separate from the projects proposed in the Millvale Pivot 2.0 Plan, residential population and employment growth is expected to stay relatively stable until the year 2050 (the carbon neutrality horizon year). For more information about the new construction and renovation projects that will affect population and employment within Millvale, please see below.

New Construction Projects

Riverfront Mixed Use Development

In the Millvale Pivot 2.0 Plan, affordable mixed use housing has been identified as an appropriate use for four sites within Millvale's River District. These developments would include commercial uses on the first floor and affordable or mixed income housing units on the second and third floors. Public gathering space would be created adjacent to the buildings and Girty's Run would be daylight, running right through a public plaza. The exact number of jobs this would create (on the first floor) and units this would create (on the second and third floors) will depend on a number of factors. However, across the four sites it is estimated that approximately 150 jobs and housing for 300 people will be created. This project directly contributes to increasing the square footage of high quality public space (Place: Public Spaces performance target), increasing the number of units of affordable housing (Place: Housing performance target), increasing the employment rate (Prosperity: Economic Development performance target), increasing the acres of public green space (Living Infrastructure: Connection with Nature performance target), and increasing the number of businesses participating in waste reduction programs (Resource Regeneration: Waste performance target). This project indirectly contributes to other Ecodistrict performance targets as well, such as increasing Millvale's WalkScore (Health and Wellbeing: Active Living performance target). The addition of these commercial spaces and housing units will increase community-wide energy consumption and carbon emissions, however, energy efficiency best practices and solar arrays will be investigated as part of this project, which would minimize the additional energy and carbon contribution to the greater community. For more information about this project, please see pages 86-89 of the Millvale Pivot 2.0 Plan.

Renovation Projects

Stone Soup Cafe and Food Hub

A food hub and cafe are proposed for the corner building at 524 Grant Avenue as part of the Millvale Pivot 2.0 Plan. This vision was fulfilled in 2019 with the addition of a restaurant that provides fresh groceries available for purchase. The second floor of this building is currently occupied as office space. The establishment of a food hub and cafe has created approximately 16 jobs and contributes to increasing the employment rate (Prosperity: Economic Development performance target), increasing the number of restaurants participating in the Sustainable Pittsburgh Restaurants program (Prosperity: Innovation performance target), and increasing the number of businesses participating in waste reduction programs (Resource Regeneration: Waste performance target). This project also indirectly contributes to increasing Millvale's WalkScore (Health and Wellbeing: Active Living performance target). The addition of this use increases community-wide energy consumption and carbon emissions, however, energy efficiency best practices and solar arrays will be investigated as part of this project, which would minimize the additional energy and carbon contribution to the greater community. For more information about this project, please see pages 9, 34, and 38 of the Millvale Pivot 2.0 Plan.

Affordable Housing Development

A mixed-use affordable housing development is proposed in the Millvale Pivot 2.0 Plan at 216 and 220 North Avenue. This development will include ground floor retail (creating approximately 20 jobs), and upper-floor micro housing units (creating approximately 30 new housing units for 60 people). This project directly contributes to increasing the number of units of affordable housing

(Place: Housing performance target), increasing the employment rate (Prosperity: Economic Development performance target), and increasing the number of businesses participating in waste reduction programs (Resource Regeneration: Waste performance target). This project indirectly contributes to other Ecodistrict performance targets as well, such as increasing Millvale's WalkScore (Health and Wellbeing: Active Living performance target). In addition, the project will have solar panels that meet the building's energy needs (with the inclusion of carbon offsets if necessary). This will increase the community's annual megawatt-hours per year of renewable energy produced and will neither increase nor decrease community-wide energy consumption and carbon emissions. For more information about this project, please see pages 90-91 of the Millvale Pivot 2.0 Plan.

Restaurant Cluster

A Restaurant Cluster is proposed in the Millvale Pivot 2.0 Plan for Millvale's Downtown area. The Restaurant Cluster would include upgraded offerings at existing establishments and would also encourage additional restaurants to open in Millvale. New restaurants would move into renovated existing buildings along Grant Avenue and North Avenue. The Restaurant Cluster was catalyzed with the Launch Millvale Food Enterprise Incubator in 2015 - 2016. The program seeded initial food businesses which have attracted more, as well as developed the Millvale Food + Energy Hub. The program helped 10 food-oriented startups develop business and strategic plans over the course of a 12-month program. The exact number of jobs that the fulfillment of the Restaurant Cluster would create depends on the number and type of restaurants that move in. Millvale is aiming for one to five new restaurants before 2030. This would create an estimated 20 to 100 new jobs. New restaurants will contribute to increasing the employment rate (Prosperity: Economic Development performance target), increasing the number of restaurants participating in Sustainable Pittsburgh's restaurant program (Prosperity: Innovation performance target), and increase the number of businesses participating in waste reduction programs (Resource Regeneration: Waste performance target). This project indirectly contributes to other Ecodistrict performance targets as well, such as increasing Millvale's WalkScore (Health and Wellbeing: Active Living performance target). The addition of new restaurants will increase community-wide energy consumption and carbon emissions, especially because restaurants are an energy-intensive use. New restaurants will be encouraged to use energy efficiency best practices and investigate the potential of solar arrays or green energy purchase to minimize the additional energy and carbon contribution to the greater community. For more information about this project, please see pages 39-41 of the Millvale Pivot 2.0 Plan.

Permanently Affordable Housing

Millvale, in collaboration with four other municipalities and City of Pittsburgh neighborhoods, is a founding member of the City of Bridges Community Land Trust. As part of this community land trust, Millvale aims to renovate and/or build 20 new housing units, which can accommodate up to 80 additional residents. The specific locations of these units have not yet been established. The addition of these housing units directly contributes to increasing the number of affordable housing units to those at or below the poverty level (Place: Housing performance target). The addition of these housing units will increase community-wide energy consumption and carbon emissions,

however, energy efficiency best practices and solar arrays are currently being investigated as part of this project, which would minimize the additional energy and carbon contribution to the greater community. For more information about this project, please see the City of Bridges website.

For a graphic overview of the proposed projects described above, please see pages 20-21 of the Millvale Pivot 2.0 Plan.

HORIZON YEAR PERFORMANCE TARGETS

The Millvale Ecodistrict contains a series of indicators for each of the six Quality of Life areas. The Millvale Pivot 2.0 Plan, while not organized by the EcoDistrict priorities, does include one indicator for each of the priority objective categories and for each of the Imperatives. The baseline performance and 2030 targets for each indicator are documented in [Appendix B, Millvale Ecodistrict Roadmap Indicators](#).

POTENTIAL STRATEGIES

The Millvale Pivot 2.0 Plan contains a series of community-identified Actions (equivalent to the EcoDistrict Certification requirement for “strategies”) for each of the Quality of Life Issue Goals. The Millvale Pivot 2.0 Plan, while not organized by the EcoDistrict Priorities, does include at least one action for each of the priority objective categories, as shown in Figure 8. Please see the Millvale Pivot 2.0 Plan for more information about the Millvale Ecodistrict Actions.

Figure 8: The Millvale Ecodistrict’s Actions as related to each EcoDistrict Priority Objective Category. Please note that this is not a comprehensive list of Millvale’s Actions. More information on the Millvale Ecodistrict Roadmap Actions can be found in [Appendix A Millvale Ecodistrict Pivot 2.0 Plan](#) pages 25 - 113 and [Appendix C Millvale Ecodistrict Roadmap Actions](#).

EcoDistrict Priority	EcoDistrict Objective	Millvale Ecodistrict Action (equivalent to EcoDistricts Strategy)	QoL Area
Place	Engagement & Inclusion	Create a comprehensive community needs assessment.	Equity
Place	Culture & Identity	Highlight and share storytelling through community events.	Equity
Place	Public Spaces	Improve Downtown sidewalk culture with engaging storefronts and complete streets improvements.	Mobility
Place	Housing	Establish a community land trust to ensure community stewardship of land and guarantee long-term housing affordability. This model of land ownership will provide residents the opportunity to build community wealth.	Equity
Prosperity	Access to Opportunity	Prioritize efforts that build community wealth through job training or hiring, such as a youth energy conservation team or learn & earn county programs.	Energy

Prosperity	Economic Development	Recruit additional restaurants to create a restaurant cluster.	Food
Prosperity	Innovation	Explore alternative energy non-traditional finance mechanisms such as co-ops, community volunteer banks, volunteer barter boards, creative labor exchanges, social capital funds, etc.	Energy
Health & Wellbeing	Active Living	Expand Highmark's bike sharing program to Millvale.	Mobility
Health & Wellbeing	Health	Engage Allegheny County Health Department health data through collaboration with Shaler Area School District.	Equity
Health & Wellbeing	Safety	Use complete streets principles to guide road design and repairs.	Mobility
Health & Wellbeing	Food Systems	Continue efforts to increase individual growing opportunities and access to affordable, local, and healthy food in Millvale.	Food
Connectivity	Street Network	Implement slow roads, safe roads, and accessibility initiatives.	Mobility
Connectivity	Mobility	Partner with the Millvale Borough Pedestrian and Bike Committee and Pittsburghers for Public Transit to improve frequency and variety of bus service.	Mobility
Connectivity	Digital Network	Provide additional spaces and publicly accessible computers that provide free access to the internet	Energy
Living Infrastructure	Natural Features	Research and implement quantifiable hillside conservation opportunities.	Water
Living Infrastructure	Ecosystem Health	Examine all five micro-shed areas and evaluate what would be the most effective green stormwater infrastructure using qualitative and quantitative criteria.	Water
Living Infrastructure	Connection with Nature	Integrate micro-shed projects into a comprehensive public realm strategy, such as by developing physically linked or signature designed Millvale stormwater parklets that become new amenities within the community.	Water
Resource Regeneration	Air & Climate	Plan and implement a solar farm.	Energy
Resource Regeneration	Water	Develop a green stormwater infrastructure kit-of-parts and implementation incentives for residents and business owners to use on their properties.	Water
Resource Regeneration	Waste	Expand residential waste recycling programs and establish waste recycling programs for commercial businesses.	Food

STRATEGIES ASSESSMENT & RANKING

The Millvale Ecodistrict seeks to achieve all of the actions listed in the Pivot 2.0 Plan, however, given the community's capacity, achieving all of the actions in such a short time frame is

unattainable. The actions have been assessed and the results will inform the community's immediate priorities over the next three to five years. The community has prioritized actions that are fully within the control of the Millvale Ecodistrict, align with community values, match the organizational capacity and funding available for the next three years, in addition to evaluating the benefits in regards to equity, resilience, and climate protection. The Millvale Ecodistrict also considered risk, level of stakeholder support, and impact on 2030 performance targets when assessing the actions. See [Appendix C Millvale Ecodistrict Roadmap Actions](#) for the full strategies assessment.

Figure 9: Ranking criteria and scoring descriptions for Millvale Ecodistrict Action Items

Ranking Criteria	Score 1	Score 2	Score 3
Technical Readiness	<i>Few to no key steps for implementation of this project/program are in place</i>	<i>Some but not all key steps for implementation of this project/program are in place</i>	<i>All key steps for implementation of this project/program are in place</i>
Financial Soundness	<i>The Millvale Ecodistrict has neither sufficient funds nor a fundraising plan to implement this project/program</i>	<i>The Millvale Ecodistrict has partial funds and/or a fundraising plan to implement this project/program</i>	<i>The Millvale Ecodistrict has full funds to implement this project/program</i>
Risk	<i>Implementation of this project/program has high risk of negative social, economic, or environmental consequences</i>	<i>Implementation of this project/program has moderate risk of negative social, economic, or environmental consequences</i>	<i>Implementation of this project/program has low risk of negative social, economic, or environmental consequences</i>
Capacity to Manage	<i>The Millvale Ecodistrict will not have sufficient capacity to implement this project/program until 7+ years from now</i>	<i>The Millvale Ecodistrict has sufficient capacity and partner support to implement this project/program within the next 4-6 years</i>	<i>The Millvale Ecodistrict has sufficient capacity and partner support to implement this project/program within the next 3 years</i>
Level of Stakeholder Support	<i>Stakeholders have not expressed support for this project/program, or have expressed concern</i>	<i>Stakeholders have expressed moderate support of this project/program</i>	<i>Stakeholders have expressed enthusiastic and full support of this project/program</i>
Impact on Targets	<i>Implementation of this project/program would make minor progress towards fulfilling the Millvale Ecodistrict's six Quality of Life Vision Statements and carbon neutrality targets</i>	<i>Implementation of this project/program would make moderate progress towards fulfilling the Millvale Ecodistrict's six Quality of Life Vision Statements and carbon neutrality targets</i>	<i>Implementation of this project/program would make significant progress towards fulfilling the Millvale Ecodistrict's six Quality of Life Vision Statements and carbon neutrality targets</i>
Contribution to Climate Neutrality Targets	<i>Implementation of this project/program would reduce Scope 1 and Scope 2 community-wide carbon emissions slightly or not at all</i>	<i>Implementation of this project/program would moderately reduce Scope 1 and Scope 2 community-wide carbon emissions</i>	<i>Implementation of this project/program would significantly reduce Scope 1 and Scope 2 community-wide carbon emissions</i>

There are several actions listed in the Millvale Pivot 2.0 Plan that do not directly contribute to the goal of carbon neutrality, but indirectly or cumulatively contribute. The carbon impact of these actions are listed in column AO of [Appendix C Millvale Ecodistrict Roadmap Actions](#). Based on the actions and performance targets that are directly quantifiable, it has been calculated that the community will reduce its carbon emissions by **13,637 metric tons over the next ten years. This is about 40% of Millvale's baseline carbon emissions.** After setting the groundwork over the next ten years, Millvale will re-evaluate its carbon emissions inventory and progress towards carbon neutrality as part of a planning process in 2030 that will result in updated indicators, goals, and actions. Depending on the nature of these future actions, Millvale will purchase carbon offsets to ensure that the Ecodistrict achieves carbon neutrality by the year 2050. See below and [Appendix C Millvale Ecodistrict Roadmap Actions](#) for more detail.

Pathway to Carbon Neutrality

1. Increase the use of alternative transportation and better connect Millvale to the region .

This includes the following actions:

- *Feature alternative transit assets in the development of Millvale's unique identity and improve the river and bike networks*
- *Provide Millvale residents with municipal incentives to encourage alternative transportation use.*
- *Partner with Millvale Borough Bike & Pedestrian Committee and Pittsburghers for Public Transit to establish bus lines.*
- *Expand Highmark's bike sharing program to Millvale.*
- *Establish car share and carpool programs.*
- *Establish a Millvale shuttle bus to transport elderly or handicapped individuals to Millvale's downtown.*
- *Establish official bike routes through the community that are supported by sharrows, bike boxes, and bike lanes where appropriate.*
- *Use complete streets principles to guide road design and repairs.*
- *Build bus shelters for Millvale's most heavily used bus stops, featuring live bus tracking information.*
- *Install bike tool stations around town for Millvalians to repair their bikes.*
- *Recruit a bike sales and repair store to relocate to downtown Millvale.*
- *PROJECT: Complete Streets*
- *PROJECT: Kayak Commuter Hub*

The impact of each individual action cannot be quantified at this time, however, the cumulative impact of these actions aims to increase Millvale's alternative transportation rate from 27% to 35% (an 8% improvement). Assuming that these actions can achieve this goal, this will result in a **reduction of 920 metric tons of carbon emissions annually.** This is an ambitious goal for the year 2030. Additional actions will support achievement of this goal between the years 2030 and 2050.

2. Sequester carbon with trees and vegetation. This includes the following actions:

- *Consider air quality parks that decrease particulate matter transfers through biofiltration.*
- *PROJECT: Breathe Easy Zone*
- *PROJECT: Clean Air Park*

The impact of each individual action cannot be quantified at this time, however, the cumulative impact of these actions aims to increase Millvale's shade tree canopy by 4% over the next 10

years. This will result in a **reduction of 7 metric tons of carbon emissions annually**. This estimate is informed by the Plans established for the year 2030. Additional carbon sequestration actions will be taken between the years 2030 to 2050.

3. Reduce energy consumption and increase renewable energy adoption. This includes the following actions:

- *Identify the most cost sensitive sectors and develop a critical path to address them.*
- *Commit to buying all or a percentage of renewable energy.*
- *Create a Borough demand management commitment.*
- *Plan and implement a solar farm.*
- *Continue installing solar panels on residential and commercial properties.*
- *Increase the number of off the grid properties and businesses.*
- *Investigate the geothermal energy potential for new and existing developments.*
- *Investigate the hydro-power potential for riverfront properties.*
- *Investigate the potential for anaerobic digestion paired with energy production in Millvale.*
- *Install solar-powered electric vehicle charging stations.*
- *Create programs that encourage weatherization and filtration for homes and commercial buildings.*
- *PROJECT: Solar Farm and Co-op*
- *PROJECT: Green Business District*

Millvale has a goal to reduce building energy consumption by 50% over the next 10 years, in alignment with the 2030 challenge. The first step is energy conservation. Energy efficiency improvements on average reduce energy consumption by 15 to 30%. In Millvale the energy efficiency improvements will be aggressive and deep retrofits. This will result in a **reduction of 6,431 metric tons of carbon emissions annually**. As a note, not all buildings will undergo a deep energy efficiency retrofit before 2030, but all buildings will by the year 2050.

Next, Millvale will install solar panels on solar-eligible rooftops, as well as investigate the establishment of a solar farm and participation in a solar co-op. According to Project Sunroof, 68% of the roof area in Millvale is solar viable. If all of the solar viable buildings installed solar arrays, this would result in 8,880 MWh of renewable energy produced annually. This will result in a **reduction of 6,279 metric tons of carbon emissions annually**. As a note, not all buildings will install solar panels before 2030, but most or all buildings will by the year 2050.

As technology evolves, Millvale will utilize new smart energy technology, employ additional carbon sequestration techniques, and install additional forms of renewable energy, such as solar arrays over parking lots and wind turbines along the highways. While these ideas are mentioned in the Millvale Pivot 2.0 Plan, the benefit of these initiatives cannot be quantified at this time.

Finally, Millvale will purchase carbon offsets to reach their goal of carbon neutrality by the year 2050. See Table 10 below for Millvale's outlined pathway to carbon neutrality.

Figure 10: Millvale Ecodistrict’s carbon neutrality strategies and corresponding carbon emission offsets, reductions, and sequestrations. If all actions are implemented, including further strategies beyond our 2030 horizon year, Millvale will achieve carbon neutrality by 2050.

2050 Carbon Neutrality Strategy	CO2 (metric tons)
2017 Carbon Emissions Baseline	34,573
Increase alternative transportation rate	- 920 (2.7% decrease)
Sequester carbon with trees and vegetation	-7 (0.02% decrease)
Energy efficiency retrofits	-6,431 (18.6% decrease)
Solarization of buildings	-6,279 (18.2% decrease)
Strategies in years 2030-2050	To Be Determined
Carbon offsets purchase (depending on the nature of projects occurring in the years 2030 to 2050, this number could be smaller)	-20,936 (60.6% decrease or less)
Total Carbon Emissions Removed	34,573
Net Carbon Emissions	0

RESPONSIBILITIES, FUNDING, AND IMPLEMENTATION SCHEDULE

The Millvale Ecodistrict seeks to achieve all of the actions listed in the Action Plan, however, given the Millvale Ecodistrict’s projected capacity over the next few years, achieving all of the actions in such a short time frame is unattainable. The Millvale Ecodistrict has prioritized the actions and chosen several to focus on over the next three years. These prioritized actions are marked in column AC of [Appendix C Millvale Ecodistrict Roadmap Actions](#) with an “S” for short-term. Each prioritized action includes a responsible party, estimated implementation costs, potential funding source, and an implementation schedule. Implementation costs will be determined on a project by project basis and is contingent on available funding. Actions that will be implemented after 3 years are represented with a rough timeline in column AF of [Appendix C Millvale Ecodistrict Roadmap Actions](#).

APPENDICES

A. [Millvale Pivot 2.0 Plan](#)

Completed in 2016, the Millvale Pivot 2.0 Plan builds from Pivot 1.0 by expanding Millvale's Ecodistrict goals and strategies to include air quality, mobility, and equity (which acts as an umbrella over the other five quality of life areas), as well as updates to energy, food, and water. Pivot 2.0 provides the tools to increase Millvale's depth of commitment and breadth of adoption, in addition to acting as the community's EcoDistrict Roadmap. The plan also includes place-based recommendations as well as a frameworks analysis.

B. [Millvale Ecodistrict Roadmap Indicators](#)

The Millvale Ecodistrict Roadmap Indicators document provides a list of indicators organized by EcoDistrict priority objective area. Each indicator is accompanied by the baseline performance, 2030 target, and data source information.

C. [Millvale Ecodistrict Roadmap Actions](#)

The Millvale Ecodistrict Roadmap Actions document provides a list of all Millvale Ecodistrict Actions that are listed in the Millvale Pivot 2.0 Plan. The Imperatives and Priority Objectives that are relevant to each Action are indicated in the neighboring columns. Each Action is also accompanied by responsible parties and a timeline, as well as a strategies assessment and ranking.

D. [Millvale Priority-Based Asset Map](#)

The Millvale Priority-Based Asset Map is an interactive map that displays the Millvale Ecodistrict's assets, organized by EcoDistricts Protocol Priority area as well as socioeconomic, physical, and organizational categories. Assets are also organized based on degree of control; Primary assets are located within Millvale and are controlled within Millvale, secondary assets are located in Millvale but are controlled by an entity outside of Millvale, and tertiary assets are located outside of Millvale and are controlled by an entity outside of Millvale.

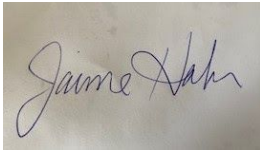
E. [Millvale Imperatives Trend Indices](#)

The Millvale Imperatives Trend Indices describe the desirable or undesirable activities or phenomena that contribute to the community's vision. It includes several indicators, including one for each Imperative with the baseline performance and 2030 target.

SIGNATORIES

This Roadmap will be renewed every two years without notice or review unless a majority of signatories requests that the Roadmap be reviewed. In the event that a signatory wishes to terminate this Roadmap, termination requires a majority vote from Millvale's four founding organizations.

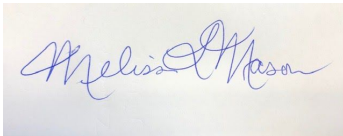
Signed by:

A handwritten signature in blue ink that reads "Jaime Hahn".

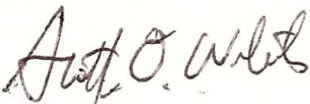
Jaime Hahn, President, Millvale Community Development Corporation

JAMES MACHAJEWSKI JR

James Machajewski, President, Millvale Borough Council

A handwritten signature in blue ink that reads "Melissa Mason".

Melissa Mason, President, Millvale Community Library

A handwritten signature in black ink that reads "Scott Wolovich".

Scott Wolovich, Executive Director, New Sun Rising