



A GUIDE TO LOCAL GREENHOUSE GAS ACCOUNTING AND MITIGATION RESOURCES

Pennsylvania Environmental Resource Consortium



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This Guide is intended for Pennsylvania municipal officials and staff that are interested in learning more about publicly-available resources that are available to them to assist with greenhouse gas (GHG) accounting and mitigation.

The Guide was developed by the Pennsylvania Environmental Resource Consortium (PERC). It is not exhaustive and the resources provided were not developed by (PERC). It is a compilation of publicly-available resources available through federal agencies, non-profits and other organizations. Additional information about each resource is available on the resource's website through the links provided.

The Guide is organized into five sections:

- Greenhouse Gas Accounting Protocols
- Greenhouse Gas Accounting Tools
- Greenhouse Gas Mitigation
- Local Climate Program Development and Commitments
- Local Climate Communications

GREENHOUSE GAS ACCOUNTING PROTOCOLS

THE GLOBAL PROTOCOL FOR COMMUNITY-SCALE GREENHOUSE GAS EMISSION INVENTORIES

Provided by C40 Cities, the GPC enables a consistent, transparent and internationally recognized approach for cities to measure and report emissions, allowing for credible comparison and aggregation across timescales and geographies.

<http://www.c40.org/programmes/the-global-protocol-for-community-scale-greenhouse-gas-emission-inventories-gpc>

LOCAL GOVERNMENT OPERATIONS PROTOCOL

The Local Government Operations (LGO) Protocol provides guidance for how to structure and prepare a GHG emission inventory at the local government level as well as calculation methodologies and emission factors. The LGO Protocol was prepared through a joint collaboration between the California Air Resources Board (CARB), ICLEI – Local Governments for Sustainability, and The Climate Registry.

<https://www.theclimateregistry.org/tools-resources/reporting-protocols/local-government-operations-protocol/>

U.S. COMMUNITY PROTOCOL FOR ACCOUNTING AND REPORTING OF GREENHOUSE GAS EMISSIONS

The U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions is a technical document with methodologies to assist local governments with preparing greenhouse gas emission inventories of their communities. The U.S. Community Protocol was prepared by and is available through ICLEI.

<http://icleiusa.org/publications/us-community-protocol/>

GREENHOUSE GAS ACCOUNTING TOOLS

CLEARPATH

ClearPath is an online software platform available through ICLEI for completing greenhouse gas inventories, forecasts, climate action plans, and monitoring at the community-wide or government operations scale.

<http://icleiusa.org/clearpath/>

EPA'S LOCAL GREENHOUSE GAS INVENTORY TOOL

EPA's Local Greenhouse Gas Inventory Tool helps local communities evaluate their GHG emissions. The tool can be used to prepare a GHG emission inventory for the entire community or for local government operations only.

<https://www.epa.gov/statelocalclimate/local-greenhouse-gas-inventory-tool>

GREENHOUSE GAS MITIGATION

CARBON NEUTRAL CITIES ALLIANCE: DEEP CARBON REDUCTION PLANNING FRAMEWORK

The Carbon Neutral Cities Alliance (CNCA) is a collaboration of international cities within the Urban Sustainability Directors Network committed to achieving aggressive long-term carbon reduction goals. The CNCA provides a framework for long-term deep carbon reduction planning.

<https://www.usdn.org/public/page/100/Deep-Carbon-Reduction-Planning-Framework>

EPA'S LOCAL CLIMATE AND ENERGY PROGRAM

EPA's State and Local Climate and Energy Program has numerous resources available to local government officials to assist with exploring greenhouse gas mitigation options, including:

- Energy Efficiency and Renewable Energy in Low-Income Communities
- Combined Heat and Power
- Energy Efficiency in Affordable Housing
- Energy Efficiency in K-12 Schools
- Energy Efficiency in Local Government Operations
- Energy Efficiency Product Procurement
- Energy Efficiency in Water and Wastewater Facilities
- Green Power Procurement
- Landfill Gas Energy
- On-site Renewable Energy Generation
- Resource Conservation and Recovery
- Smart Growth
- Transportation Control Measures

<https://www.epa.gov/statelocalclimate/state-and-local-climate-and-energy-publications>

PENN STATE EXTENSION: RENEWABLE ENERGY ACADEMY

Renewable Energy Academy is a series of three hour programs that cover topics on renewable and alternative energy technology.

<http://extension.psu.edu/natural-resources/energy/courses/renewable-energy-academy>

LOCAL CLIMATE PROGRAM DEVELOPMENT AND COMMITMENTS

C40 CITIES

C40 Cities connects more than 80 of the world's largest cities, representing over 600 million people, on a climate change response. The network provides resources to help cities respond to climate change, including information on measurement and planning, GHG accounting, and climate risk and adaptation.

<http://www.c40.org/programmes>

CLIMATE ACTION ZONE CITIES

NAZCA's Climate Action Zone Cities website tracks the climate change response of more than 2,500 cities around the globe.

<http://climateaction.unfccc.int/cities>

EPA'S LOCAL CLIMATE AND ENERGY PROGRAM

EPA's State and Local Climate and Energy Program has numerous resources available to local government officials to assist with developing climate programs, including:

[Effective Practices for Local Climate and Energy Programs](#)

[Local Climate Action Framework: A Step-by-Step Implementation Guide](#)

GLOBAL COVENANT OF MAYORS FOR CLIMATE AND ENERGY

The Global Covenant of Mayors for Climate & Energy is an international coalition of cities and local governments with a shared long-term vision of promoting and supporting voluntary action to combat climate change and move to a low emission, resilient society. The Global Covenant of Mayors for Climate and Energy includes a commitment as well as resources available to cities to help them develop a climate change response.

<http://www.globalcovenantofmayors.org/participate/tools-for-cities/>

MAYORS CLIMATE PROTECTION CENTER

Under the U.S Conference of Mayors Climate Protection Agreement, mayors vow to reduce carbon dioxide emissions in their cities. Specifically, they strive to:

- Strive to meet or beat the Kyoto Protocol targets in their own communities, through actions ranging from anti-sprawl land-use policies to urban forest restoration projects to public information campaigns;

- Urge their state governments, and the federal government, to enact policies and programs to meet or beat the greenhouse gas emission reduction target suggested for the United States in the Kyoto Protocol – 7% reduction from 1990 levels by 2012; and
- Urge the U.S. Congress to pass the bipartisan greenhouse gas reduction legislation, which would establish a national emission trading system

<https://www.usmayors.org/mayors-climate-protection-center/>

MEASURING UP 2015: HOW LOCAL LEADERSHIP CAN ACCELERATE NATIONAL CLIMATE GOALS

Measuring Up 2015: How Local Leadership Can Accelerate National Climate Goals analyzes data from more than 100 US cities to demonstrate that local governments can cut greenhouse gas emissions, reduce climate threats, and achieve multiple community goals like lower energy costs, better air quality, improved health, and enhanced economic development.

http://icleiusa.org/wp-content/uploads/2015/08/Measuring_Up_2015.pdf

PENN STATE SUSTAINABLE COMMUNITIES COLLABORATIVE

The Sustainable Communities Collaborative at Penn State active at six campuses: Abington, Altoona, Beaver, Behrend, Brandywine, and University Park. Past projects that are related to climate mitigation and adaptation have included renewable energy policy benchmarking and storm water mitigation strategies. One current project includes the assessment of municipal property for solar PV development and developing water and energy curriculum into the plan for a LEED Gold elementary school.

<http://sustainability.psu.edu/sustainable-communities-collaborative>

PREPARING FOR CLIMATE CHANGE: A GUIDEBOOK FOR LOCAL, REGIONAL, AND STATE GOVERNMENTS

Prepare for Climate Change: A Guidebook for Local, Regional and State Governments provides decision-makers in a local, regional, or state government with the information needed to prepare for climate change. It recommends a detailed, easy-to-understand process for climate change preparedness based on familiar resources and tools.

<http://icleiusa.org/wp-content/uploads/2015/06/Preparing-for-Climate-Change-Adaptation-Guidebook.pdf>

LOCAL CLIMATE COMMUNICATIONS

EPA'S LOCAL CLIMATE AND ENERGY PROGRAM

EPA's State and Local Climate and Energy Program has numerous resources available to local government officials to assist with understanding climate change, including:

[What Climate Change Means for Pennsylvania](#)

LET'S TALK COMMUNITIES AND CLIMATE: COMMUNICATION GUIDANCE FOR CITY AND COMMUNITY LEADERS

This guide's purpose is to help individual communicate climate change issues regardless of their experience level. It synthesizes academic research and message testing on climate communications from across the

social sciences into practical guidance for communicating climate change information. The guide was produced by the Path to Positive Communities program in collaboration with ICLEI USA and ecoAmerica.

<http://icleiusa.org/wp-content/uploads/2015/06/EcoAmerica-Lets-Talk-Communities-and-Climate.pdf>

YALE CLIMATE OPINION MAPS

Public opinion about global warming is an important influence on decision making about policies to reduce global warming or prepare for the impacts, but American opinions vary widely depending on where people live. The Yale Climate Opinion Maps provided a useful tool for exploring perceptions of global warming and climate solutions at the county and/or congressional district level.

<http://climatecommunication.yale.edu/visualizations-data/ycom-us-2016/>