

City of Pittsburgh Resilience and Sustainability

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History of Climate Action

- 2008- Climate Action Plan 1.0
- 2012- Climate Action Plan 2.0
- 2013- Election of Mayor Peduto
- 2014- Application and acceptance to 100 Resilient Cities
- 2016-Establishment of Preliminary Risk Assessment
- 2017-Release of Resilient Strategy- OnePGH
- 2017 -Development of Climate Action Plan 3.0



COMMUNITY PUGH

RESILIENT PITTSBURGH

What is resilience?

100 Resilient Cities defines urban resilience as the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience.

Urbanization, Globalization & Climate Change

Value of being a 100 Resilient Cities Network Member



1. Chief Resilience Officer & staff
2. Planning support: The RAND Corporation
3. Implementation support: platform partners - \$5m in services
4. Membership in network of 100 cities

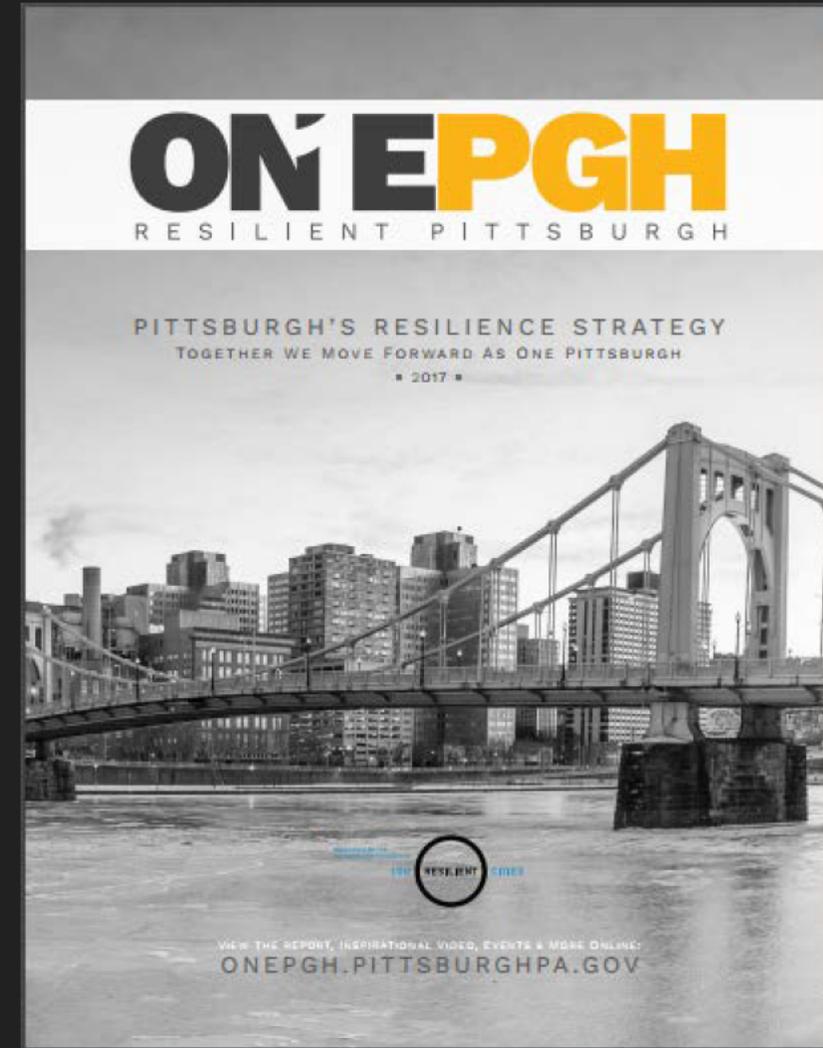
Products of ONEPGH

The Preliminary Resilience Assessment

is a scan of Pittsburgh's shocks and stresses and resilience challenges

The Resilience Strategy

is a plan to increase resilience within the city of Pittsburgh



Stakeholder Engagement

Engaged > 1,000 people throughout the process

Roundtables, Deliberative forums, working groups, steering committee, etc

Coordinated with the Center for Deliberative Democracy, > 140 people participated



*sizes approximate to percentage

SHOCKS

INFRASTRUCTURE
COLLAPSE

HAZMAT
ACCIDENT

CLIMATE CHANGE &
EXTREME WEATHER

ECONOMIC
COLLAPSE

STRESSES

ENVIRONMENTAL
DEGRADATION

ECONOMIC &
RACIAL INEQUITY

AGING
INFRASTRUCTURE

FRAGMENTATION

Values



People

Pittsburgh will empower all residents to contribute to thriving and supportive communities by ensuring that basic needs are met. We will be an inclusive city of innovation that celebrates our diversity, and all residents will have equal access to resources and opportunity



Place

Pittsburgh will use land to benefit all residents; to increase social cohesion, connectivity, public and ecological health; and to protect against current and future risks. We will design, scale, and maintain our infrastructure for current and future needs, providing benefits and services to our neighborhoods during times of calm and crisis



Planet

Pittsburgh will achieve long-term environmental health through wise stewardship, improved use of our resources, and a reduced carbon footprint



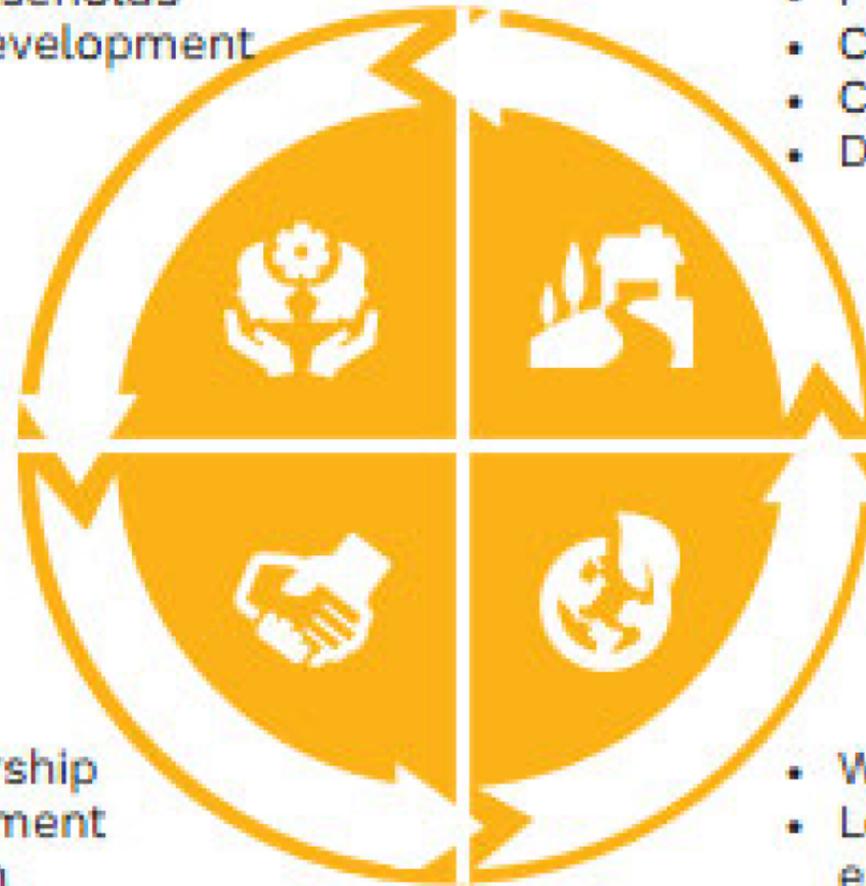
Performance

Pittsburgh will work closely with neighbors and partners for improved planning and decision-making

P4 and Pittsburgh's Resilience Objectives

- Housing
- Health
- Food
- Safety
- Education
- Emergency preparedness
- Resilient households
- Workforce development
- Diversity

- Transportation
- Recapitalized infrastructure
- Mixed uses
- Vacant land
- Green space
- Public space
- Communications
- Commercial transport
- Disaster reliability



- Entrepreneurship
- Civic engagement
- Collaboration
- Measurement

- Water
- Local and renewable energy
- Resource efficiency
- Natural infrastructure
- Resilient design

The strategy pushes forward existing actions and supplements with new initiatives



Platform Partners dive deeper into diagnostics

Topic area

Platform Partner

Cybersecurity

Microsoft

Economic Development

Fourth Economy

Energy

AGU/TEX, Siemens

Transportation

Doppelmayr

Zero Waste

R20

Scenario planning and impacts

Intermedix, Pitt GSPH

Stormwater

Arcadis, Impact Infrastructure

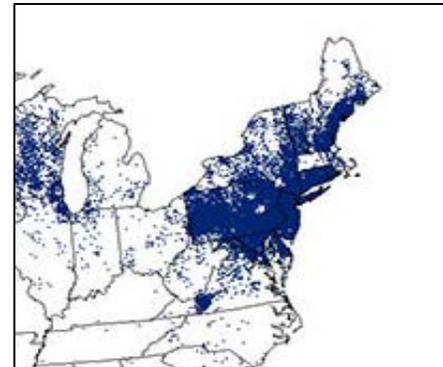
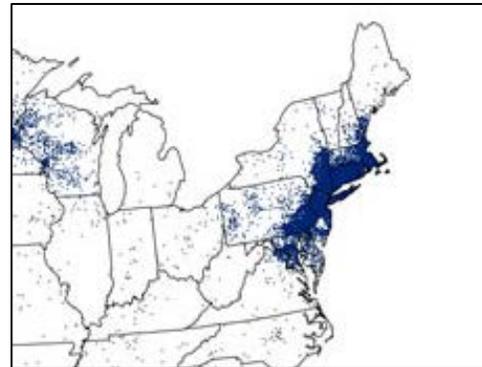
Pittsburgh Climate Action Plan

Why create a Climate Action Plan

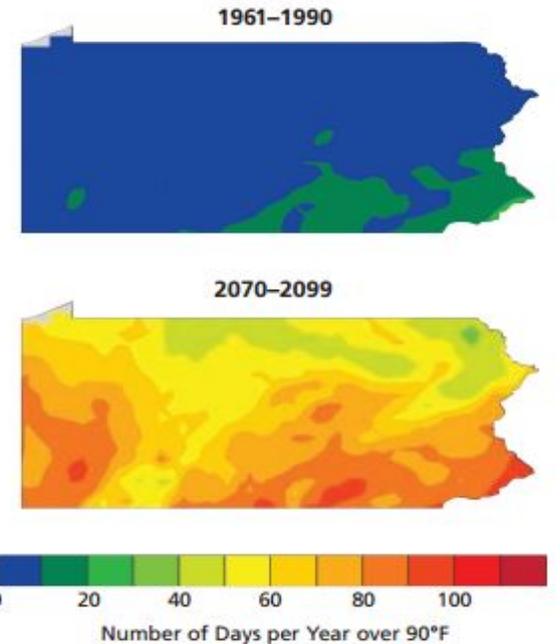
- Identify primary sources of local greenhouse gas emissions
- Collaborate with key contributors of those emissions
- Convene technical experts to develop emission reduction strategies



Washington Boulevard flooding



Lyme's disease cases in 2001 vs 2016



Statewide, Pennsylvania is projected to experience dramatic increases in the number of extremely hot days over the coming century, especially under the higher-emissions scenario. The greatest warming will be in the southwest and southeast regions, where daytime temperatures by late century (2070–2099) could hover over 90°F for nearly the entire summer.

CAP Development

- 3-year, thoughtful, civic engagement process
- Included contributions from
 - Participation from hundreds of community members
 - 90+ organizations from Pittsburgh's business community, non-profit sector and local, state and federal government
 - City representatives have hosted or participated in over 100 community meetings, workshops and events to help gather input and content for the plan.
- Goals created to align with national and global standards
 - Clean power plan
 - Paris Climate Agreement
 - I.C.L.E.I
 - Compact of Mayors

Pittsburgh 2030 Goals

CITY OPERATIONS

- 100% renewable energy use
- 100% fossil fuel free fleet
- Divestment of City pensions

CITY OF PITTSBURGH

- 50% energy & water use reduction
- 50% transportation emission reduction
- Zero waste

Emission Reduction Goals

- 20% GHG Reduction by 2023
- 50% GHG Reduction by 2030
- 80% GHG Reduction by 2050

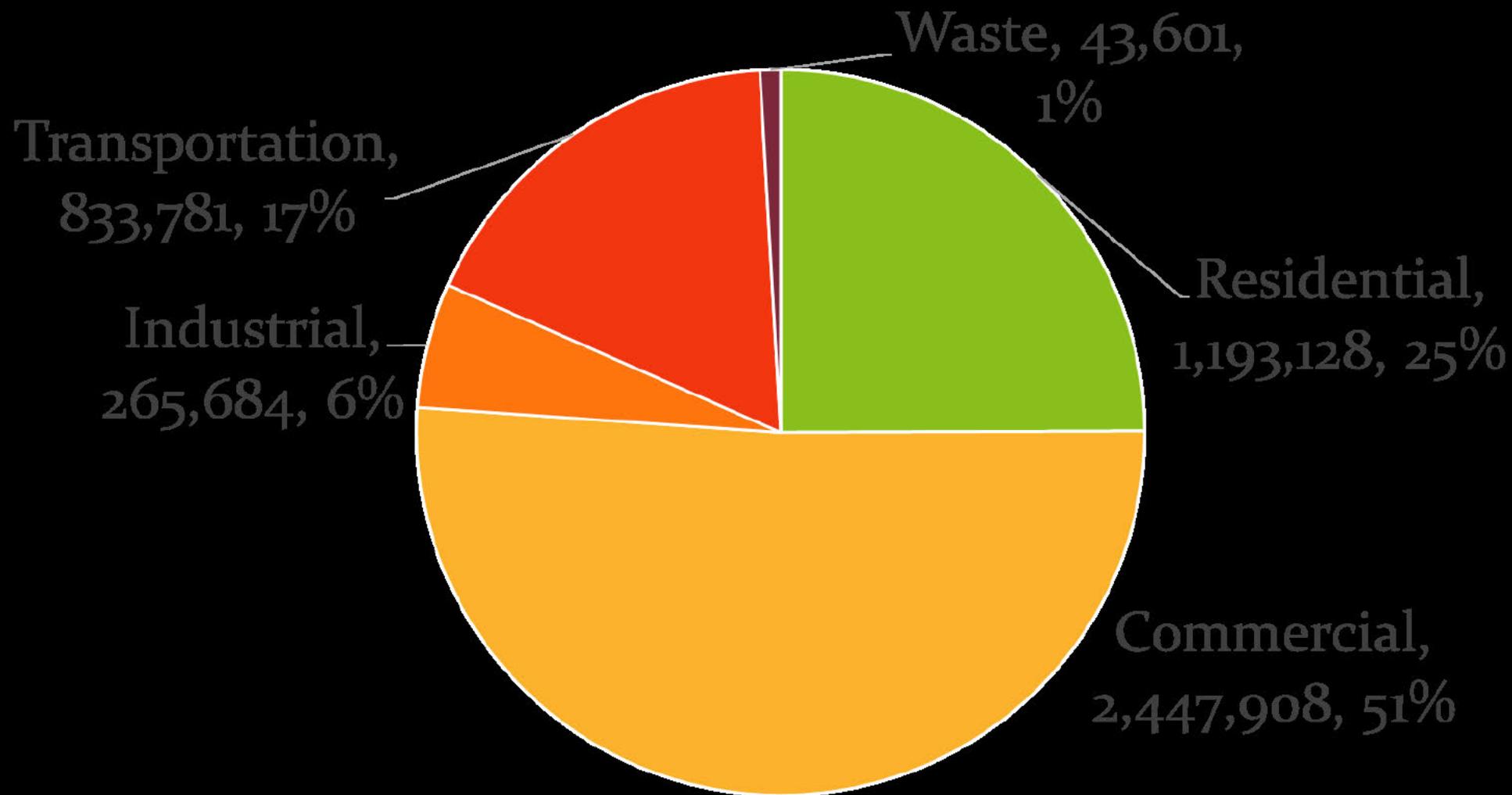
Goals of Actions

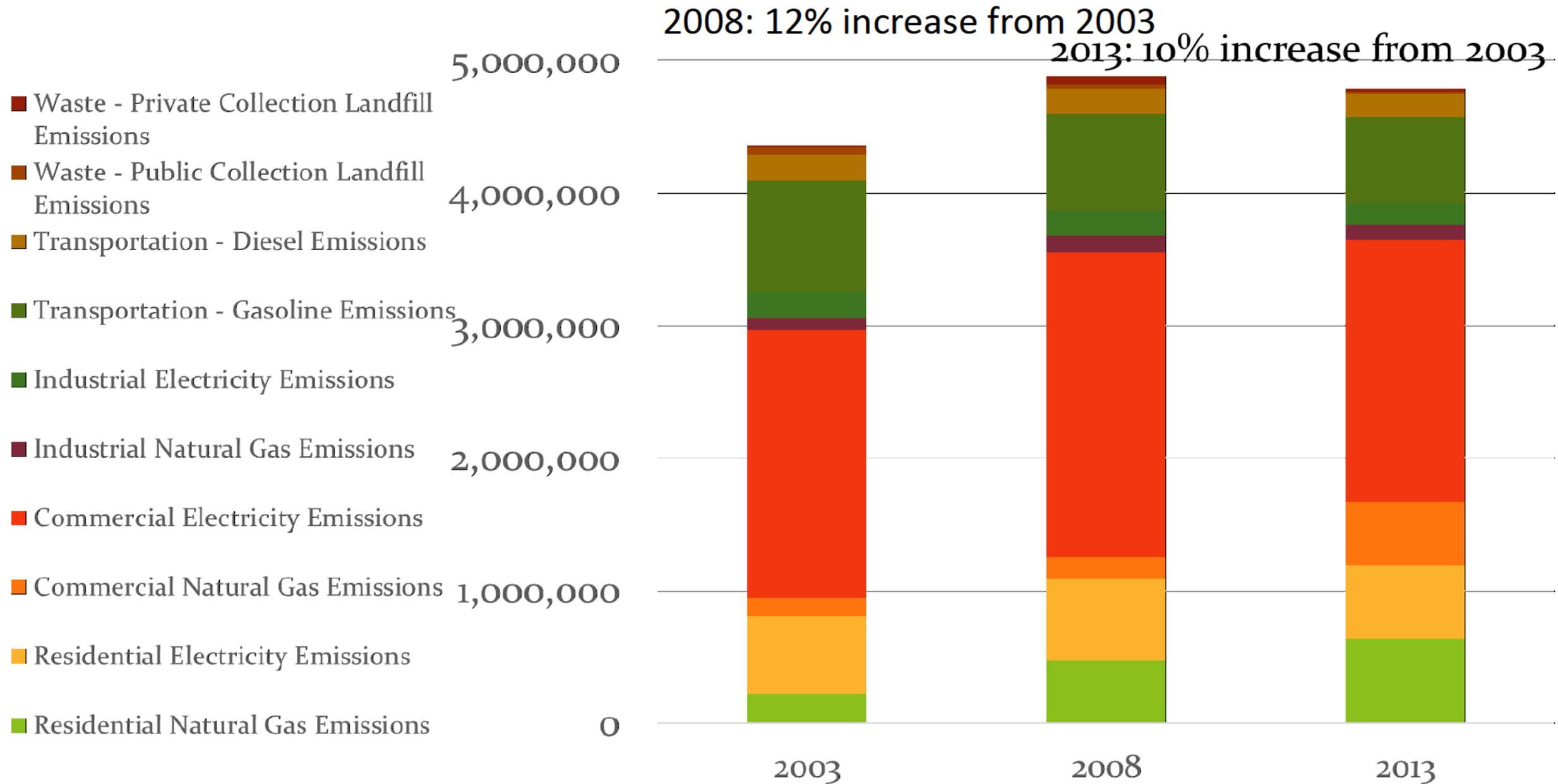
- Reduce emission
- Improve resiliency
- Increase innovation
- Foster leadership
- Promote workforce development
- Introduce economic opportunities
- Align with City zoning codes
- Support the OnePGH Resilience Strategy

Pittsburgh's Greenhouse Gas Inventory

2003, 2008 AND 2013

2013 Weather Normalized Sector Breakdown





Pittsburgh Climate Action Plan Format

- Energy Generation & Distribution
- Buildings & End Use Efficiency
 - Transportation & Land Use
- Waste & Resource Recovery
 - Food & Agriculture
 - Urban Ecosystems

5 Key strategies

1. Decarbonize the electricity grid

- Increase integration of smart technology
- District scale energy
- Increase local renewable energy generation

2. Improve building operations

- Increase energy efficiency
- Shrink peak energy loads
- Reduce residential energy burdens

3. Change how people get around

- Reduce vehicle miles traveled
- Improve pedestrian and bicycle infrastructure
- Prioritize transit oriented development
- Electrification

4. Use less and waste less

- Pursue circular economy
- Reduce food waste
- Increase diversion rates

5. Focus locally

- Increase local food production
- Improve community cohesion and urban design
- Generate local renewable energy
- Grow local businesses

Relevant City Initiatives

1. Buildings

- Energy benchmarking ordinance
- Energy intelligence network
- Green garage initiative
- Residential purchasing platform
- Facilities optimization

2. Energy Grid

- District energy + DOE MOU
- Industrial scale local renewable aggregated purchase
- Complete Streets
- Renewable generation
- Electrification of City vehicles

4. Transportation

- Complete streets
- Electrification of City vehicles
- City-wide charging coordination
- Anti-idling

5. Waste

- Roadmap to Zero Waste
- Recycling bin distribution

6. Sequestration

- Biophilic Cities
- Greenways 2.0
- Clean and Green Plan
- Urban Tree Master Plan

Existing Climate Commitments



Thank you

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Energy Generation and Distribution

Reduce line loss

- Duquesne light capital investment projects
- People's Gas methane tracking

District Energy Approach

- Improved resiliency of grid infrastructure
- Utilize 'smart' technology
- Location efficiency

Increase local renewable generation

- Map out optimal location for renewable installation
 - Combined heat and power
 - Solar
 - Hydro
 - Waste to Energy
- Increase electric vehicle use
 - Install zero carbon charging infrastructure

Buildings

Improve Energy Efficiency

- Energy benchmarking
- Improved building codes
- Energy efficiency retrofits and upgrades

Reduce Peak Load

- Utilization of smart meter data
- Demand Response programs
- Demand management

Integration of green technology

- Improve access to utility data
- Purchase local renewable energy

Residential Energy Efficiency

- Create district overlay policies using energy income data
- Incentivize home energy audits
- Develop outreach and education campaign around energy saving techniques

Transportation and Land Use

Reduce vehicle miles traveled by increasing mode shifts

- Improve and maintain pedestrian and bike infrastructure
- Bus rapid transit system
- Prioritize key corridors for transit
- Transit oriented development

Electrify vehicles

- Fossil fuel free fleet
- Bus electrification
- Zero carbon charging infrastructure
- Shuttle electrification
- Installation of residential charging infrastructure

Consumption & Resource Recovery

Zero Waste Plan

- Public Private Partnerships
- Materials Recovery Map
- Recycling bin deployment

Waste to Energy

- Allow for residential and commercial composting
- Develop waste to energy plan
 - Utilize ALCOSAN

Food & Agriculture

Reduce Food Waste

- Public Private Partnerships
- Food recovery
- Improve education around healthy food choices

Increase local agriculture

- Develop educational programs with school systems
- Utilize vacant lots
- Prioritize locally sourced products

Urban Ecosystems

Improve Urban Forests

- Develop forest rating system
- Pest control
- Diversify tree species
- Protect green spaces

Improve Soil Quality

- Allow for residential and commercial composting
- Utilize compost on public lands
- Brown field remediation plan

Next Steps

Draft release

Public comment period

City Council Resolution

Sustainability & Resilience Commission

Pittsburgh Climate Compact

Chapter Champions



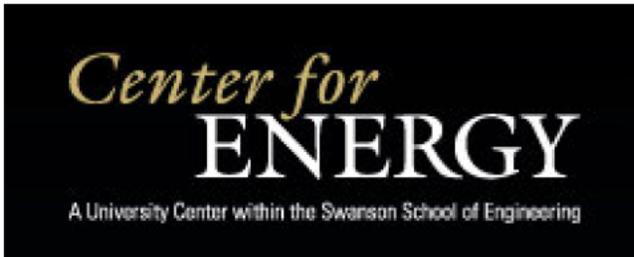
Regional Partners



PennFuture



University Partners



Carnegie Mellon University
Scott Institute
for Energy Innovation



National Partners



U.S. DEPARTMENT OF
ENERGY



NATIONAL ACADEMY
OF SCIENCES

