



Executive Summary of the Centre Region **Climate Action & Adaptation Plan**

For the Borough of State College and Townships of
College, Ferguson, Halfmoon, Harris, and Patton



Adopted by the Centre Region Council of Governments
11/22/21



EXECUTIVE SUMMARY

With seasonal variations and catastrophic natural disasters becoming more intense and frequent, climate change threatens the health, safety, and overall well-being of communities across the globe. The Centre Region is no exception. While all levels of governance are necessary to create and sustain the policy measures and actions necessary to adequately address these climate challenges, the impacts will be felt locally. This Plan is about how our local governments can play an essential role in preparing our community for the changing climate and be leaders in building a low-carbon community of the future.





Local Challenges

More frequent and severe storms

Pennsylvania is projected to experience more total average rainfall, occurring in less frequent but heavier rain events. Between 1958 and 2016, the Northeast saw more than a 55% increase in the amount of precipitation falling in very heavy events¹. Most recently, remnants from Hurricane Ida caused record-setting rainfall rates of three inches or more in an hour in the Northeast. **Extreme rainfall events are projected to increase in magnitude, frequency, and intensity.**

Increasing temperatures

By 2050 Pennsylvania is likely to experience a 5.9°F increase in average annual temperatures if global greenhouse gas emissions continue to increase⁵. There will be more frequent and intense extreme heat events. The Centre Region is likely to suffer 30-60 more days with temperatures reaching at least 90°F⁵. Days reaching temperatures above 95°F and 100°F will become more frequent as well.

Impacts

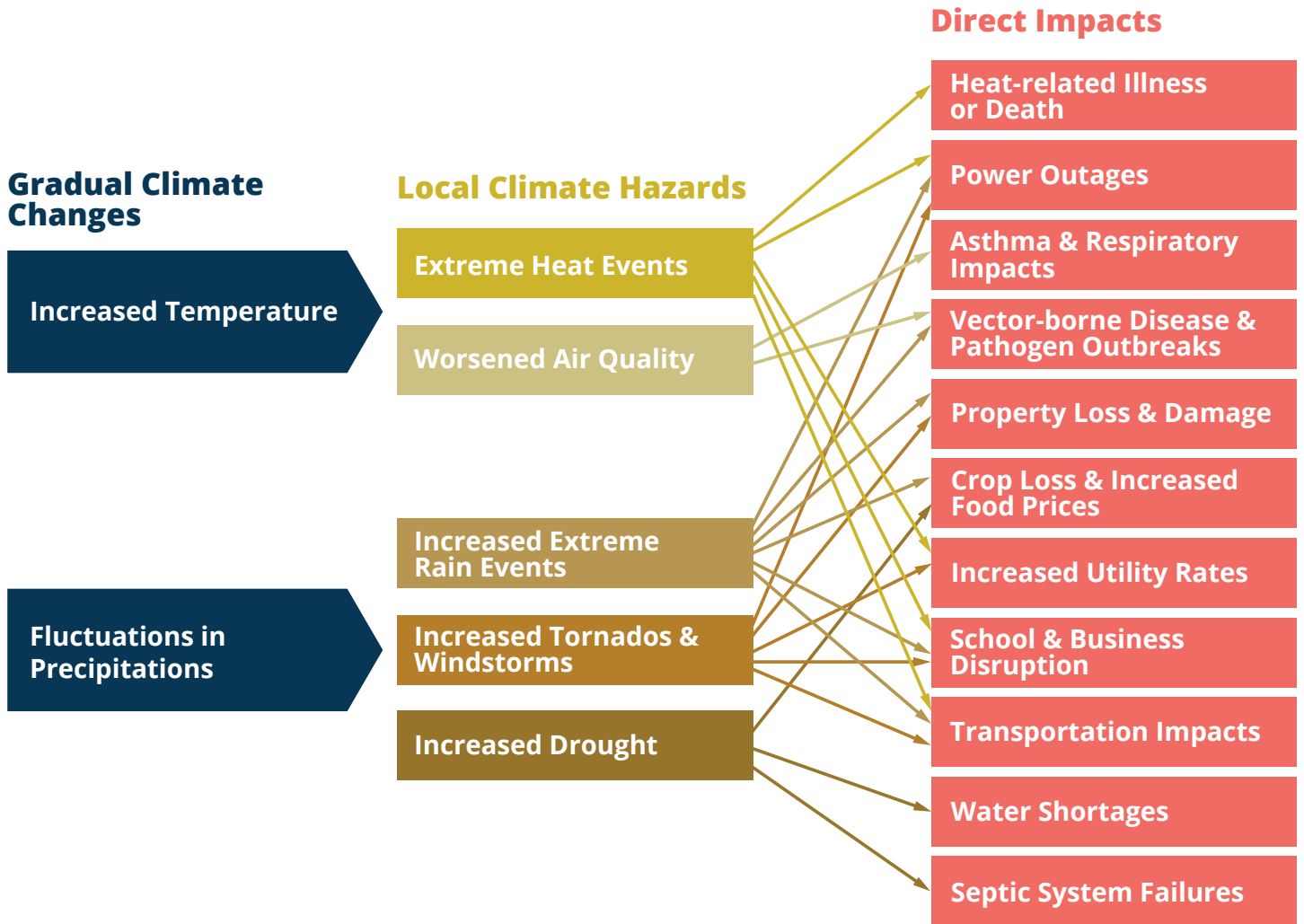
The Centre Region is experiencing the impacts of the changing climate. **This puts a burden on our infrastructure and disrupts our economic, social, and environmental systems.** Record-breaking floods and landslides caused infrastructure damages in Pennsylvania totaling \$125 million in 2018³. Increasing temperatures will continue to alter the growing season for our agriculture community and will increase the number of days that people need to cool their homes and workspaces. Temperature rise, coupled with increased precipitation are main drivers of vector-borne diseases and pathogens that will negatively impact human health, agriculture, and outdoor recreation.

Everyone will be affected but not everyone will be affected equally. Vulnerable populations are most at risk to the impacts of climate change due to existing social, economic, and environmental barriers. The CAAP advocates for intentional policies, programs, and budgets that recognize the livelihoods of marginalized people.

A changing climate will impact the Centre Region in a multitude of ways. **There are considerable opportunities to prepare for and respond to these changes while also creating co-benefits for our communities.**

Municipalities and other public stakeholders have already begun taking steps to make our community more resilient. The development of Centre Region Climate Action and Adaptation Plan (CAAP) demonstrates further commitment to meet our greenhouse gas (GHG) emissions reduction targets and prepare our community to adapt to the changing climate.





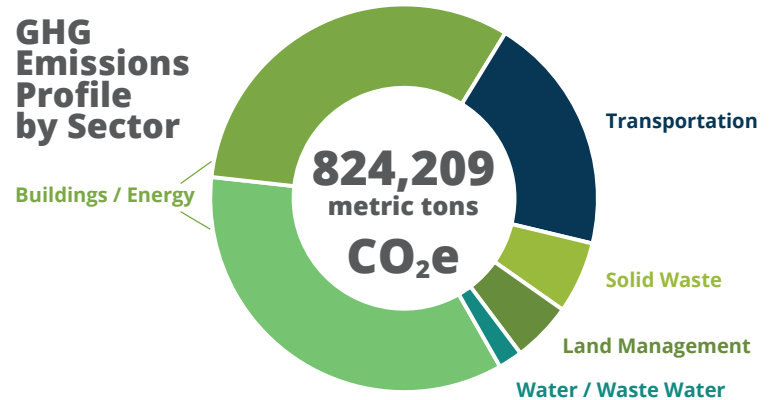
Increasing Vulnerabilities



The Process

Emissions Inventory

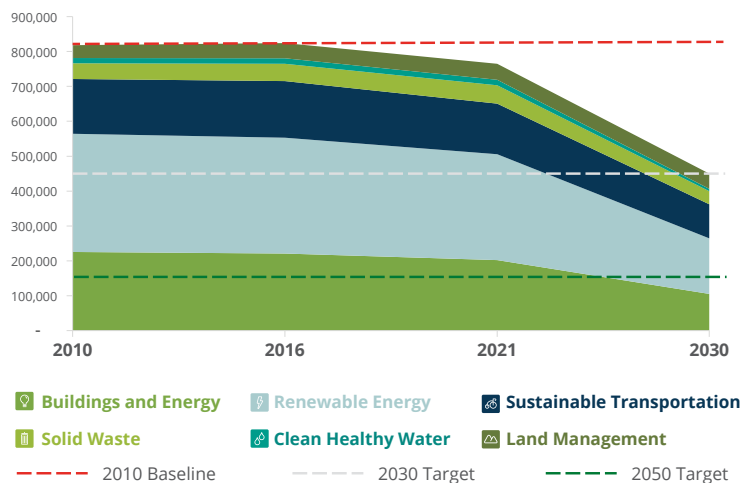
The CAAP includes an inventory of the Centre Region's GHG emissions from community-wide activities. CRCOG used the GHG emissions inventory to set emissions reduction targets, identify tangible actions aimed at reducing GHG emissions, and will perform future inventories to measure progress toward achieving those targets. The 2016 inventory was prepared according to the ICLEI-Local Governments for Sustainability (ICLEI) Community Protocol and includes emissions from buildings, transportation, solid waste, water and wastewater operations, and some land management operations. The results are expressed in metric tons of carbon dioxide equivalent (MTCO₂e).



Across the Centre Region, our annual greenhouse gas emissions are 824,209 MTCO₂e, which is approximately 10.21 MTCO₂e per person. Our emissions per person are more than 2x the global average, though average for U.S. suburban areas. Buildings and energy form the largest contribution of GHG emissions in the region (67%) with transportation the next largest (20%). This represents a significant opportunity to reduce emissions and help our community meet its reduction targets.

Targets

In July 2020, the elected officials of the Centre Region formally resolved to create a regional plan to **reduce 2010 level greenhouse gas (GHG) emissions by 45% by 2030, and 80% by 2050.** The resolution also stated the plan should identify and encourage courses of action to lessen the impacts of changing climate conditions and embrace the opportunities of climate adaptation.



Community Engagement

Effective climate mitigation and adaptation plans are not possible without active support of key stakeholders and engagement with the public. **Many individuals and organizations played a role in shaping this plan.** A Climate

Action and Adaptation Technical Advisory Group (TAG) was formed in 2019 to provide technical assistance to the Sustainability Planner and the corresponding CRCOG Committees during preparation of the CAAP. The advisory group used the input from five subject matter expert sessions, public and stakeholder input, and relevant best practices from peer and aspirational cities to inform recommendations for the plan.

The Covid-19 pandemic required a modified form of community engagement, but several efforts were made to reach stakeholders and community members. Over 1,800 community members provided input through the Sustainability Survey that was conducted in March through April 2021. A virtual public forum was held on April 13, 2021 with more than 150 participants.

CRCOG recognizes that there is a need to reach a broader audience as the municipalities begin to implement strategies within the CAAP. It's vitally important to have collaborations with governmental entities, businesses, community organizations, and residents. Through these efforts and others, the Centre Region can achieve additional benefits beyond reducing emissions, including saving money and improving the Centre Region's economic vitality and quality of life.

The Plan

This Climate Action and Adaption Plan builds upon existing policies and programs with 82 actions to be taken by the community and local government which will result in a **45% reduction of community-wide GHG emissions by 2030**. Implementing the actions will also allow the Centre Region to remain a resilient, healthy community for current residents and for future generations. Local governments' role will be to lead by example, foster partnerships, create policy, and help disseminate information.

 <p>ENERGY & BUILDINGS</p> <p>Achieve building efficiencies to reduce energy consumption 30% for homes and 25% for businesses.</p>	 <p>RENEWABLE ENERGY</p> <p>Transition fossil sources to renewables for 10% homes' and 5% businesses' energy usage.</p>	 <p>SUSTAINABLE TRANSPORTATION</p> <p>Increase the trips taken with sustainable options and convert 25% of the communities' vehicles with EVs.</p>
<p>Improve energy efficiency best practices in existing buildings.</p> <p>Increase the number of new buildings and homes that are net zero energy ready, affordable, and resilient.</p> <p>Maximize efficiency of municipal facilities, equipment and operations.</p> <p>Enhance resiliency throughout the community.</p>	<p>Develop a resilient energy portfolio through diversified sources and local generation.</p> <p>Improve access to affordable clean energy for residents and small organizations.</p> <p>Support clean energy policy and growth.</p>	<p>Encourage driving cleaner, more efficient vehicles and traffic operations.</p> <p>Reduce the trips with one driver.</p> <p>Align land use and housing with transportation infrastructure to increase access to walking, biking and public transit.</p> <p>Improve and build resilience into our transportation systems.</p>
 <p>SOLID WASTE</p> <p>Reduce the amount of waste sent to the landfill by 25%.</p>	 <p>LAND MANAGEMENT</p> <p>Preserve, restore, and responsibly manage the region's diverse and fragile environmental resources.</p>	 <p>CLEAN HEALTHY WATER</p> <p>Conserve, protect, enhance, and restore our water resources.</p>
<p>Encourage reducing waste at the source in municipal operations, homes and businesses.</p> <p>Increase diversion in municipal operations, homes and businesses.</p> <p>Improve efficiencies of waste management.</p> <p>Support locally produced products.</p>	<p>Educate, encourage, and promote sustainable agricultural, forest and land management practices.</p> <p>Promote and support rebuilding soil and sustainable practices that sequester carbon.</p> <p>Reduce reliance on carbon heavy fuel sources.</p> <p>Support land managers becoming more resilient.</p>	<p>Manage flooding and reduce erosion impacts on infrastructure.</p> <p>Grow and maintain a healthy tree canopy (urban, suburban, rural, forest).</p> <p>Increase the region's resiliency by restoring, protecting, and conserving community water resources.</p> <p>Restore and protect ecosystems and promote ecosystem resilience.</p>

Next Steps

Implementation

The completion of this plan does not mark an endpoint, but rather the **beginning of a long-term effort**. The CAAP provides a framework for launching into the implementation phase of the plan. Given that this is the Region's first climate action plan, and to encourage broad participation, CRCOG envisions a phased approach for implementation.

Initial Action:

- The Centre Region municipalities will lead by example to serve as a catalyst for broader community action.
- Early implementation efforts will also emphasize educational programs and incentives to inspire action, build community support, develop public-private sector partnerships, and enhance community readiness.
- Local government and the community will define priority actions that will drive the creation of specific plans of action and resource needs among the responsible parties.

These initial actions can build the broader ownership that is essential to create momentum, guide decision making, and lay the groundwork for more transformational actions needed in the future.

Monitoring

Plan progress should be monitored and evaluated regularly, and this document should be updated as technologies, economic conditions, and demographics change. **Establishing a monitoring process will be necessary to enable CRCOG to track the impacts of the actions included in the plan** and compare estimated impacts to what is achieved in terms of energy savings, renewable energy production, GHG emissions reduction, and community resiliency. Monitoring progress will assist in the determination of whether an action is performing well and to identify corrective measures. Providing progress updates to the community will lead to greater understanding and help build broader community support.

Funding

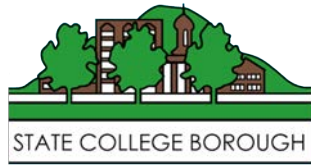
The strategies and actions contained in the CAAP will require funding over the entire course of implementation. CRCOG and municipalities will need to employ long-term and creative approaches to secure funding sources and take advantage of **public-private sector partnerships, grant opportunities, evolving renewable markets, and emerging technological opportunities** to successfully implement reductions in GHG emissions and climate adaptation actions.

The CAAP is a comprehensive roadmap to accelerate our continued success in building a more healthy, equitable, resilient, and sustainable community. It is also a call to action to governmental entities, residents, businesses, and community organizations to take an active part in the implementation of the Plan to support our community transition to a low carbon future, prepare for the impacts of climate change, and create a healthier and more prosperous community.



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CRPA
Centre Regional
Planning Agency

