Section 09

Climate Economy

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Climate Economy

Why Climate Economy Is Important

Climate change impacts are increasingly affecting the economy. Left unabated, the impacts of man-made climate change through the end of this century will cost the United States billions of dollars. According to a 2019 EPA study, the discrepancy in climate change related economic impact society faces under a "business-as-usual" scenario and meeting the reduction goal established in the Paris Agreement may account for as much as $224 billion difference in climate related economic impact annually by 2090. According to a 2019 World Bank report on carbon pricing trends, a carbon price range of $40-$80 per ton is necessary by 2020 to reach the goals set by the 2015 Paris Agreement, while other studies have placed the full cost of carbon at $200-$400 per ton. The calculations outlined in Section 1 of this plan estimate a conservative localized cost for carbon at over $116 per ton.

The economy is also directly affected by actions taken to combat climate change, as well. Many that are adverse to taking action on climate cite damage to the economy as a reason for inaction. Evidence continues to build that action can be taken on climate that strengthens economic growth, while also reducing emissions. That has occurred in Bloomington. While the city's GDP has *increased* 59%, Bloomington has experienced community GHG emissions *decrease* by 18%.

Between 2018 and 2028, there are projected to be 8,936 new jobs annually in Monroe County, 8,455 projected to be replacement openings (Job Postings by County, IN Department of Workforce Development). Though higher-wage sectors of life sciences, technology and healthcare have potential as growing sectors, according to the Bureau of Labor Statistics, 89% of the jobs in the Bloomington metropolitan area are in the following areas of employment: manufacturing; trade, transportation, and utilities; professional and business services; education and health services; leisure and hospitality; and government.

"Climate Economy" refers to an economy that is both resilient to the projected impacts of climate change, as well as supportive of reducing community-wide emissions in line with the goals of the Climate Action Plan. Many of the climate actions included in this plan can reduce Bloomington's contributions to global emissions, deal with the risks posed by climate change, while achieving economic growth and opportunity. Transformative change is needed now in how we build our cities, produce and use energy, transport people and goods, and manage our landscapes. The changes that climate change will require also represent opportunities to improve quality of life, improve health outcomes, and provide opportunities for workforce development, new job creation, and economic development.

Climate Change Considerations

Climate Hazards

In many sectors, climate change will impact water and energy consumption and costs. Extreme weather and increasing variability in temperatures and precipitation may stress transportation systems and fleets. Increasing extreme weather hazards may threaten supply material and product supply chains.

Opportunities

Climate mitigation strategies like transformation of Bloomington's energy system, improvements to the energy efficiency of the city's building stock, enhancement of transportation alternatives, and the implementation of goals like tree canopy increases and reduction to impervious surfaces represent opportunities for the development of new businesses and job creation.

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Equity Considerations

- Low income individuals in our communities are especially prone to the impacts of climate change and bear a greatly disproportionate share of the costs—including vulnerability to job instability that can be brought about by extreme weather events and other climate change impacts.
- Income inequality is rising in the US, with September 2019 levels being the highest in 50 years. High inequality leads to lower life spans, increased instances of mental health issues, and increased obesity rates among other social impacts. Because the impacts and the costs of climate change are disproportionately felt by vulnerable populations and low-income individuals, climate change impacts will exacerbate income inequality in our communities.

Sector Goals

Sector goals are established to both support the City's Climate Action Plan in creating a climate resilient community and to reduce city-wide GHG emissions 25% below 2018 levels by 2030.

Sector goals related to GHG emissions reductions are designed to balance reduction across all sectors and achieve the overall emissions goals set forth for the community. The goals seek to strike a balance between achievability while also reaching -for improvement beyond business-as-usual.

As indicated in the introduction, the Climate Action Plan is intended to be a 10 year plan to be updated at the completion of that time. Consequently, the goals and strategies outlined in this section are intended to be achieved by 2030 unless otherwise noted.

Implementation of actions are anticipated to be initiated over 3 phases: phase 1 within 1-3 years, phase 2 within 2-5 years, and phase 3 within 4-8 years of CAP approval.

Goal CE 1
Build marketplace climate resilience.

Goal CE 2
Attract, create, and support businesses that are committed to sustainability and climate goals.

Goal CE 3
Develop new mechanisms for financing City climate action plan implementation.

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Goal CE 1 Build marketplace climate resilience.

Strategy CE 1-A:

Evaluate climate risks to businesses.

How We'll Measure Progress:

Status of Climate Economic Impacts Study; Status of technical assistance program; Number of businesses engaged

Projected climate change impacts pose potential challenges to businesses in the form of supply chain interruptions, property damage from extreme weather, labor productivity impacts of extreme temperatures, and potential increased operational costs associated with increasing energy demands. Identification of the risks by economic sector can support businesses in making appropriate plans to avoid or mitigate potential negative impacts.

Co-Benefits of Strategy:

Reduced Costs

Improved Community Resilience

	Actions	Implementation Phase
CE1-A-1	Collaborate with businesses to identify industry specific economic impacts Bloomington businesses (particularly small businesses and disadvantaged group businesses) face based on the climate change based on risks and hazards identified in this report, the Climate Risk and Vulnerability Assessment, and the City/County emergency management response plan. Collaborate with businesses to Identify economic resilience strategies in response to those economic vulnerabilities and conduct outreach to industry groups and public-private partnerships to promote private sector investment addressing them.	1
CE1-A-2	Conduct a study to Identify economic opportunities possible through the successful implementation of the CAP plan and achievement of its goals, especially those which can provide opportunity for the city's vulnerable populations. https://www.eda.gov/ceds/	2
CE1-A-3	Strengthen public-private economic communications in support of climate resilience, climate economic opportunities, and the goals of this CAP. Effort should focus particularly on communications with disadvantaged group businesses (minority-owned, veteran owned, economically disadvantaged, etc.), and small businesses.	2
CE1-A-4	Collaborate with local and regional partners including the County, and Indiana University to establish a technical assistance or Climate Resilient Business concierge service and to work with businesses to assess their climate change vulnerability and plan for the future.	2
CE1-A-5	Support climate resilience of local economy by preparing water, road, utilities, and other public infrastructure for increased demands from climate change based on Bloomington Climate Risk and Vulnerability Assessment, Emergency Management Plan, and State climate change data and projections.	3

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Strategy CE 1-B:

Accelerate the transition to a carbon free local economy.

How We'll Measure Progress:
Status of permitting process streamlining; Status of "Green contractor" resource/database

When businesses understand the need for addressing climate mitigation strategies and embrace the opportunities of improved energy efficiency and renewable energy will play a significant role in achieving the City's Climate Action Plan goals. These organizations will also benefit the most from the economic savings potential these strategies represent. Supporting that transition is key to helping Bloomington businesses leverage the advantages of climate action.

Co-Benefits of Strategy:

Improved Energy Resilience

Reduced GHG Emissions

	Actions	Implementation Phase
CE1-B-1	Work with local unions and businesses to ensure that apprenticeship program includes solar training.	1
CE1-B-2	Explore the development of a job training and entrepreneurial development program similar to Operation Fresh Start. Program to focus on developing green jobs skills within vulnerable and underserved populations in local sustainable agriculture, energy efficiency audits and upgrades, renewable energy, and other skills that support the goals of the CAP. (http://www.operationfreshstart.org/)	1
CE1-B-3	Explore supporting local low income solar installations through the development of a local SREC market and financing mechanisms to offset solar installation costs for low income residents and small businesses.	1
CE1-B-4	Provide assistance vetting contractors, offering energy, waste, and water audits, and EV readiness assessments to local businesses.	2
CE1-B-5	Promote Bloomington as an environmentally friendly destination by highlighting the businesses that are taking steps to reduce resource consumption.	2

Goal CE 2 Attract, create, and support businesses that are committed to sustainability and climate goals.

Strategy CE 2-A:

Increase workforce development for the climate economy.

How We'll Measure Progress:
Status of job training and entrepreneurial program development; Number of residents trained and employed

Strengthening development of a workforce capable of participating in climate economy businesses such as renewable energy and building energy efficiency strategies is critical to supporting the development and expansion of these economic sectors and meeting the implementation goals of the Climate Action Plan. Focusing workforce development and training on underserved and vulnerable populations within Bloomington will have the added benefit of improving the economic stability of those most vulnerable and improving equity.

Co-Benefits of Strategy:

Improved Community Equity

Jobs / Economic Development

	Actions	Implementation Phase
CE2-A-1	Establish a job training and entrepreneurial development program focused on jobs that reduce GHG emissions, or support climate adaptation and community resilience. Explore Operation Fresh Start as a model (http://www.operationfreshstart.org/)	1

	Actions	Implementation Phase
CE2-A-2	Develop job training programs focused on building resiliency- solar construction, weatherization, etc. Potential example program: Colorado solar training program. Potential partners: Solar For All, Ivy Tech Community College and local solar installers. Coordinate with the City of Bloomington's Recover Forward program.	2
CE2-A-3	Develop specific programs to train residents of low and middle income communities for jobs in the green economy. Coordinate with Work One, Department of Workforce Development, Good Will Excel Center, Hoosier Hills Career Center, Ivy Tech Community College, and Regional Opportunities Initiative.	2
CE2-A-4	Collaborate with the School District, local community colleges, unions, and employers to establish a Green Jobs apprenticeship and internship program and facilitate the hiring of graduates through the promotion and subsidized internship placement with local employers.	3

Strategy CE 2-B:

Support Climate Economy economic development and new business creation.

Establishing an economic environment that encourages and supports entrepreneurs in identifying, launching, and growing businesses which supports the transitions needed to successfully implement the Climate Action Plan can hasten the transition and maximize the economic potential for local job creation.

How We'll Measure Progress:

Status of Clean Energy business incubator; Status of implementation of Renewable Energy Potentials Study recommendations; Number businesses and jobs created

Co-Benefits of Strategy:

Improved Community Equity

Jobs / Economic Development

	Actions	Implementation Phase
CE2-B-1	Establish a Clean Energy business incubator to support the establishment of innovative energy efficiency and renewable energy business models within the community. Explore incorporation with the Ivy Tech Community College.	1
CE2-B-2	Implement recommendations from the City of Bloomington Renewable Energy Potentials Study 2020. Prioritize utilization of local workforce and local renewable energy companies.	1
CE2-B-3	Partner with State and County waste management and local and regional recycling centers to establish a program to encourage and promote new entrepreneurial businesses advancing the use of recycled material feed stock, the utilization of organics composting, and "Circular Economy" concepts which further the goals of the CAP.	1
CE2-B-4	Explore opportunities to broaden the City's economic base with diversification initiatives, such as targeting the development of emerging clusters or industries that (a) build on the region's unique assets and competitive strengths; and (b) provide stability during downturns that disproportionately impact any single cluster or industry.	2
CE2-B-5	Focus business development efforts on businesses that have lower impacts on natural resources. Example: Trades District Technology Center.	2
CE2-B-6	Leverage city policy, purchasing, and regulation, and deepen local and regional partnerships including Indiana University to promote local research, development, and production of green technology and products.	2

	Actions	Implementation Phase
CE2-B-7	Establish a policy to prioritize use of local businesses for City financed energy efficiency and renewable energy projects, with special consideration given to businesses owned by women and minorities.	2
CE2-B-8	Consider climate change-related risks to local supply chains in implementation of the City's economic development strategy.	3
CE2-B-9	Work with community businesses to explore the creation of an incentivized “buy local” campaign to enhance resilience of small local businesses.	3

Goal CE 3 Develop new mechanisms for financing City climate action plan implementation.

Strategy CE 3-A:

Leverage existing financing pathways.

How We'll Measure Progress:

Status of policy development; Status of identification of dedicated Climate Action implementation funding sources

Existing financing structures represent opportunities to establish dedicated financial pathways supporting successful Climate Action implementation.

Co-Benefits of Strategy:

Reduced GHG Emissions

Jobs / Economic Development

	Actions	Implementation Phase
CE3-A-1	Explore adopting a tax financing mechanism such as a "resilience penny" property tax increase of $0.01 per $100 of assessed value and dedicate additional funds for climate mitigation and climate adaptation strategies. Funds may be used directly, or may be used as a repayment source for a bond issue.	1
CE3-A-2	Establish a policy that designates City Electric and Natural Gas Franchise Fee Income as funding source for Climate Initiatives. https://ilsr.org/energy/utility-franchise-fees/	1
CE3-A-3	Explore opportunities to utilize Tax increment Financing (TIF) to incentivize Mitigation and Adaptation actions. Options include the establishment of a Renewable Energy TIF district incentivizing on-site renewable energy utilization or a Net Zero TIF funding mechanism incentivizing high energy efficiency and Net Zero buildings.	2

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Strategy CE 3-B:

Develop new financing pathways.

How We'll Measure Progress:
Status of identification of dedicated Climate Action implementation funding sources

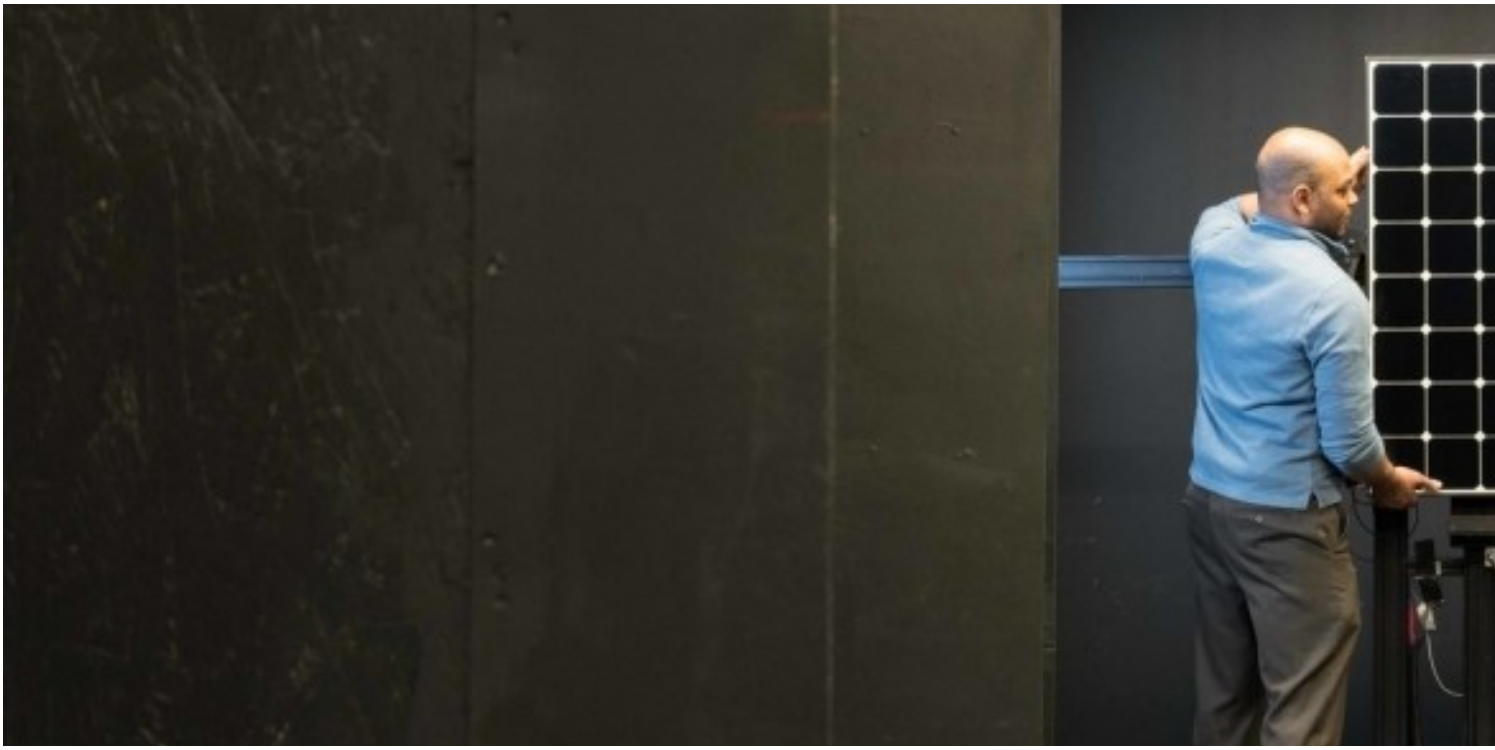
New financing structures represent opportunities to establish dedicated financial pathways supporting successful Climate Action implementation.

Co-Benefits of Strategy:

Reduced GHG Emissions

Jobs / Economic Development

	Actions	Implementation Phase
CE3-B-1	Adopt a "resilience penny" property tax increase of $0.01 per $100 of assessed value and dedicate additional funds for climate mitigation and climate adaptation strategies. Funds may be used directly, or may be used as a repayment source for a bond issue.	1
CE3-B-2	Explore the potential of developing a "Carbon Impact Fee" similar to the City of Watsonville CA. Additional funds raised to be used for Climate Mitigation and Adaptation implementation. Increased revenue to be used to fund Climate Mitigation and Adaptation implementation with a focus on the actions and strategies which increase the community's equity. https://www.cityofwatsonville.org/DocumentCenter/View/198/Frequently-Asked-Questions-About-the-Carbon-Fund-Ordinance-PDF https://www.cityofwatsonville.org/DocumentCenter/View/3944/Carbon-Fund-Voluntary-Compliance-Worksheet?bidId=	1
CE3-B-3	Explore Issuing “resilience bonds” that generate risk-reduction rebates from a city’s catastrophe insurance premiums to pay for resilience projects, prioritizing projects with high resilience, GHG mitigation, and climate adaptation potential.	2



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Climate Economy At Work In Bloomington

A number of businesses in Bloomington have demonstrated progress in centering their operations on promoting environmental well-being. Notable examples include:

- ***Manufacturing***- Cook Medical reduced landfilled waste from their Park 48 and Ellettsville facilities by 364,200 pounds in the last two years.
- ***Life sciences***- Catalent has committed to a 15% emissions decrease energy management program is in broad alignment with the ISO50001:2018 energy management standard and has completed water, energy, and waste audits.
- ***Health services***- IU Health system is building a system wide road map with energy teams at each of its hospitals and is switching bulbs at facilities to LED lighting.
- ***Education***- Indiana University Bloomington has over 25 LEED certified buildings and continues to reaffirm the commitment that all new construction receives a minimum LEED Gold certification or higher. https://cpf.iu.edu/capital-projects/leed-projects/index.html
- ***Government***- City of Bloomington made a $17 million investment to install rooftop solar on 32 facilities, generating 5.71 GWh since 2018.
- ***Restaurant***- Lennie's received Bicycle Friendly Business certification in 2019, as well as the parent company One World Enterprise being recognized for "Governor's Award for Excellence in Recycling" from the State of Indiana.