The Economics of Climate Action Plans

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Executive Summary
Climate action plans (CAPs) are robust policy tools that outline the future of a community in the face of climate change. Research and focused case studies of Fort Collins, Colorado and Miami, Florida reveal that taking climate action can contribute to the growth of the green economy, avoid future losses in GDP, and reduce avoidable deaths due to air pollution and extreme heat. The economic costs are personnel and budget for creation and implementation, as well as the cost of shifting industries. By outlining small steps and quantifying savings for each initiative, cities can clear ambiguity and gain support for CAPs.

Introduction
Our Climate Future is Fort Collins' CAP and Miami Forever Climate Ready Miami's CAP. Gainesville is creating its climate action plan, with a draft expected in Fall 2024. All three cities are members of ICLEI, an organization that provides frameworks for cities to meet their sustainability goals.

Economic Benefits
Climate action can serve to internalize negative externalities, such as carbon emissions. It also supports the growth of the green economy, with every $1 million invested in renewable energy rather than fossil fuels yielding a net increase of 5 full-time-equivalent (FTE) jobs (Garrett-Peltier, 2017). Green jobs are more resilient, higher paying, and more accessible, as they faced only a 1% decline from the 2019-2020 pandemic (5% in traditional sectors), 65% of green jobs pay livable wages (53% of traditional jobs), and 60% are considered middle-skill (38% of traditional jobs) (Miami Forever Carbon Neutral).

Complex models estimate the global economic benefits of limiting temperature rise. Limiting warming to 2°C would yield $467 trillion NPV through 2300, or $5.2 trillion per year. Limiting to 1.5°C would gain the US $885 billion by 2070 (Resources for the Future). The Social Cost of Carbon (SCC) is also useful for quantifying emissions reductions, with recent figures of ~ $185 per ton (Rennert et al., 2022).

Lastly, CAPs can yield economic benefits through reduced mortality and labor loss. Air pollution increases hospital admissions for asthma and total respiratory issues by 17% and heart issues by 9% (Schlenker & Walker, 2016). In Gainesville, 45.4% of heat mortality is due to human-caused climate change, as extreme heat affects mortality, labor loss, and reduced productivity (Romanello et al., 2023).

Economic Costs
Estimating overall costs of CAP initiatives is challenging. Fort Collins estimated $1 billion, with many ambiguities. Miami devoted $192 million to sea level rise, with the prediction of avoiding $3.2 billion in structural losses from tidal inundation by 2024 (Miami Forever Bond). Other costs of CAPs are the personnel devoted to creation, as well as the distributional concerns of industry-specific job losses.

Conclusion
The benefits of climate action can outweigh the costs. Utilizing up-to-date modeling and projections can manage uncertainty and aid in accurately quantifying environmental risk. Supplementing this with small, easily digestible goals will clear ambiguity and reveal CAPs to be the socially, environmentally, and economically robust solution that they are.