

Section 09

Climate Economy

Currently in Edina:



42,386

Jobs in Edina (2018)



88.2%

Share of employed Edina residents who work outside of Edina



93.4%

Share of employees working in Edina who live outside of city



\$62,204

Average annual earnings for Renewable Energy and Energy Efficiency jobs in Edina^{1,2}



>46%

Share of workforce in Edina with annual earnings below \$62,204³



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Climate Economy

Climate change and the economy are inexorably linked. Left unabated, the impacts of human-made climate change through the end of this century will cost the United States billions of dollars. According to a 2019 study by two EPA scientists, the difference in economic impact between the mid-range climate model (RPC6) and the high range climate model (RPC8.5) may account for as much as \$224 billion in economic impact annually by 2090.¹⁷ According to a 2019 World Bank report on trends in carbon pricing, a carbon price range of \$40-\$80 per ton is necessary as of 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.¹⁸ Using the calculation outlined in Section 10 of the Edina Climate Vulnerability Assessment (Projected localized annual economic impacts of climate change divided by annual community-wide GHG emissions), an estimate minimum localized cost for carbon is \$48 per metric ton.

The economy is also directly linked to climate action as well. One common concern is that climate action damages the economy. However, climate action today avoids the future costs associated with unmitigated climate change. Further evidence is building a clear case that acting on climate change, and reducing fossil fuel emissions can be done without weakening the economy. Since 2013, Edina has seen community-wide GHG emissions drop 1.5% while during that same period the community's GDP has **increased** 16.8%.^{15,16}

Economic Savings

Investments in energy efficiency, public transportation, renewable energy, and many other climate action strategies ultimately result in cost savings for community businesses and residents.^{19,20,22} These savings contribute to an increase in the quality of life for residents and will largely be spent within the community on goods and services, providing indirect and induced economic development potential for the City.

Climate Action and Economic Development

Rather than weakening the economy, climate action can support economic development.²¹ Transitioning away from fossil fuel use, improvements to public transit systems, and growth of local food industries are all, in part, a transition to local energy and labor sources. These transitions represent opportunities for communities to reduce the community wealth that is being exported and increase the percentage of community wealth that remains in the community in the form of local jobs. Additionally, many of the jobs potentials in Climate Action redirect funds away from less labor intensive (but more material resource intensive) sectors of the economy to support greater overall employment combined with less resource utilization.²³

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—and the impacts of the COVID-19 pandemic have only increased these inequities. 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.



The strategies on the following pages guide our path in meeting our climate goals for the Climate Health and Safety sector. Each strategy is supported by a series of detailed actions to be explored and undertaken in order to carry out the vision and goals. [See Section 10 Implementation for all supporting actions.](#)

Climate Economy



Promote economic investment that aligns with the Climate Economy and the goals of the Climate Action Plan.

Globally, we will need to make significant investment in climate action over the next 15 years in order to successfully address climate goals. These investments are necessary to avoid long-term economic damage – an Earth that is 2°C warmer due to climate change will cost the United States at least 2.3% of our annual GDP⁴ – however, these investments can spur growth. Bold climate action can create a direct economic gain of \$26 trillion in the United States through 2030 compared to “business-as-usual”⁵. On average, for every \$1 in climate action investment, communities yield \$4 in benefits⁶. In the wake of the COVID-19 pandemic, research has shown that strong climate action and investments can be effective ways for communities to “build back better” from COVID while helping to secure long-term economic success⁷.

See Section 10 Implementation for supporting actions.






Promote workforce development for success in the climate economy.

Many of the core strategies of effective climate action – like increasing distributed solar energy and weatherization programs to improve the energy efficiency of our buildings – are inherently local efforts requiring workers “on-the-ground” meaning that much of that investment can stay within our community creating quality jobs. Workers in the types of “green” jobs needed to support our transition to a carbon free economy earn higher and more equitable wages when compared to all workers nationally⁸. “Green” jobs also have lower formal educational barriers to entry - nearly half of workers in these “green” jobs attain no more than a high school diploma while earning higher wages than similarly-educated peers in other industries⁸. Because jobs in this sector tend to require greater scientific knowledge and technical skills than the average American job, these careers often also represent opportunities for workers to gain skills which benefit the local workforce long-term⁸. Ultimately, addressing climate resilience can improve the economic potential and empower disadvantaged individuals who have continued to confront systemic barriers to opportunity.

See Section 10 Implementation for supporting actions.

Example Jobs Needed in Support of the Climate Economy

 Clean Energy Production	 Energy Efficiency	 Mobility
<ul style="list-style-type: none"> ✓ Electricians ✓ Renewable energy designers + installers ✓ Energy analyst ✓ Energy law ✓ Grid integration engineering ✓ Equipment manufacturers ✓ Sales 	<ul style="list-style-type: none"> ✓ Energy efficiency consultants ✓ Energy auditors ✓ Heating and air conditioning installers ✓ Contractors (insulation, windows, roofing, etc) ✓ Appliance and equipment manufacturers and installers ✓ Sales 	<ul style="list-style-type: none"> ✓ Infrastructure contractors ✓ Transit drivers ✓ Electric vehicle sales ✓ Electric vehicle equipment installers ✓ Electricians + engineers ✓ Bike/scooter sales + repair ✓ Transportation planners

Climate Economy

Potential Economic Impact of Climate Change¹⁰

The expected impact to global GDP by 2050 under different climate change scenarios compared to a world without climate change:

No mitigating actions are taken (3.2°C increase):	-18%
Some mitigating actions are taken (2.6°C increase):	-14%
Moderate mitigating actions are taken (2°C increase):	-11%
Paris Agreement targets are met (below 2°C increase):	-4%

Estimated Global Economic Impact of COVID-19 Pandemic:⁹ -4.3%



Encourage commercial properties and businesses and institutions to plan for climate resilience.

The serious effects of the COVID pandemic have shown how easily disruptions can lead to cascading impacts on businesses, workers and communities. They have also shown the potential for economic impact by significant disruptions: the World Bank calculates that the global economy likely shrank by 4.3% in 2020 (approximately \$3.5 trillion)⁹.

The potential economic impact of climate change is far greater than what we've experienced with COVID¹⁰. The best case scenario – one in which the world meets the Paris Agreement climate targets - results in an annual GDP impact by 2050 equal to the impact of COVID. The worst case in which no appreciable emission reductions are achieved results in an annual impact more than four times greater than the COVID pandemic. The world's largest corporations are now including climate risk and resilience in their business planning. Nearly half of them, including Apple, Nestle and The 3M Company have reported climate-related financial risks of just under \$1 trillion with half of the financial risk being assessed as likely, very likely or virtually certain to materialize¹¹.

The potential for economic disruption to small and local business is equally important. Small businesses are central to the stability of the national economy – they account for 44% of the total economic activity and create two-thirds of net new jobs. Their importance in Edina is no different - the average firm in Edina employs less than 7 people³. Building climate resilience within the business community will not only benefit business-owners, but also employees, households, and the community at large.

See Section 10 Implementation for supporting actions.



Climate Economy

Strategy
CE 4

Establish sustainable financing for the City's climate action implementation.

The initial need for resilience and adaptation investments cannot be met by the current fiscal system of state and federal subsidies and conventional local taxing powers.¹³ This is not from a lack of inherent investment value but that their value does not always fit within the traditional financing model. Many involve short-term costs while their full value materializes over the long-term while others reduce future climate damage and produce multiple future benefits, but do not generate financial returns for private capital.¹³

Some communities have begun to take advantage of new financing tools like climate bonds, and community-based public-private partnerships.⁹ Other communities have also begun to establish Climate Funds and emissions trading programs to creatively meet the financing needs of robust community climate resilience.¹⁴

[See Section 10 Implementation for supporting actions.](#)

