Climate-Resilient Economic Recovery

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The Challenge

As solutions are coming forward to address the health and economic disaster resulting from COVID-19, it is critical that we do not delay taking action to address racial inequities and climate change that are already happening. Similar to cities around the world, San Francisco is critically focused on the health, food, and shelter emergencies resulting from the COVID-19 pandemic. As we address this unprecedented emergency and the economic devestation it has caused, San Francisco has also been looking to the future. The Mayor and President of the Board of Supervisors convened one of the first Economic Recovery Task Forces (ERTF) in the country as well as several other working groups to look at immediate and longer-term proposals . Additionally, San Francisco's recently-created Office of Racial Equity has taken a leadership role in both the COVID-19 response and recovery efforts.

Our ability to resolve these multiple threats in light of shrinking resources over the next several months and years will have a major impact on all of our futures. To be effective, we will need to work more collaboratively and creatively than ever before.

A climate-resilient economic recovery keeps people safe and economies open in the face of multiple crises. It enhances long term equity and resilience in terms of benefits and burdens of climate impacts to vulnerable populations.

While there is certainly room for improvement, San Francisco has a long track record of addressing climate and social issues head-on. This leadership has carried through to the current Board of Supervisors that adopted a climate emergency resolution in April 2019. Mayor London Breed also made critical commitments at the 2018 Global Climate Action Summit and recently endorsed the C40 Global Mayors COVID-19 recovery task force principles to simultaneously address the COVID-19 and climate crises.

The principles recognize that we cannot return to business as usual and the need to simultaneously accelerate economic recovery, enhance social equity, and improve the resilience of communities most affected by climate and health. For San Francisco, this means recognizing and doing something about the disproportional impact of COVID and climate change on our Black and Brown communities. Simply put, we must ensure that efforts to reduce our carbon footprint or improve climate resilience increase racial and social equity. **Investments in climate-resilient infrastructure and the transition to a lower-carbon future can drive economic recovery and promote racial equity, as well as public health, in San Francisco.**

Examples of Climate Resilience Projects with the Potential to Deliver Health, Social, and Environmental Benefits

Embarcadero Seawall Program – secures sea wall from earthquakes and sea level rise while creating and protecting jobs, open space, recreation, and critical transportation and utility infrastructure

Islais Creek/Southeast Mobility Adaptation Strategy – secures area from flooding and sea level rise while improving transportation, open space, recreation, and job opportunities

Solar + Storage – projects to enable critical buildings and infrastructure to continue their operation when the grid is offline while creating jobs and reducing air pollution

Slow Streets – projects to leverage designated streets that can serve as places to address extreme heat, flooding, or other aspects of climate resilience as well as places for social distancing and recreation

Ocean Beach – projects to close and transform sections of the Great Highway project that protect against beach erosion and sea level rise and enhance pedestrian and bike access

Equity First and a Just Transition

COVID-19 is devastating for Black and Brown communities. These communities are over-represented in both contraction of and deaths related to COVID-19. Studies show that people living in the most polluted areas are also the most likely to be hospitalized or die from the disease.[1] Due to a range of environmental and social issues, these same communities also experience a more profound impact from natural disasters and extreme weather patterns (such as wildfires/air quality, heat, flooding, and earthquakes) and will have fewer resources for recovery.

[1] Wu MS, Xiao, Nethery PhD, Rachel C, Sabath MA, M. Benjamin, Braun PhD, Danielle, Dominici PhD, Francesca, "COVID-19 $PM_{2.5}$: A National Study on Long-Term Exposure to Air Pollution and COVID-19 Mortality in the United States", Harvard University Department of Biostatistics, April 2020. Accessed at: https://projects.iq.harvard.edu/covid-pm.

The legacy of environmental racism and injustice that characterizes our cities, including San Francisco, must be reckoned with. In order to ensure a just transition to a resilient society, climate mitigation and adaptation initiatives that San Francisco pursues must be rooted in environmental and climate justice and ensure that vulnerable communities—those people that are hit first and worst—are heard and prioritized. The bolder progress we make to reduce emissions of greenhouse gases and flatten the COVID-19 curve, the more lives we will save in our communities of color.

Business Case

There is an immediate need to create jobs with living wages. Climate resilience projects can address this need while saving the City money by lowering the costs of financing and avoiding future costs.

The Bay Area Council Economic Institute conducted an analysis of climate resilience initiatives that found across four spending categories—wildfire/forest health, water, coastal resilience/sea level rise, and extreme heat/community resilience—between 12.54 and 16.26 full-time equivalent job-years are produced from every $1 million in spending in each category.[2] These jobs include positions across the wage spectrum from roles such as construction equipment operators, truck drivers, and landscapers to environmental consulting and engineering.[3] The job creation numbers are consistent with findings from similar studies that have analyzed the economic impacts of projects such as road and bridge repair, smart grid installation, and building retrofits for energy efficiency.

As an example of a suite of multi-benefit projects, the study estimated that ecosystem restoration projects along San Francisco Bay create between 3,300 and 6,600 jobs, in addition to improving quality of life for residents, restoring natural ecological functions, and protecting the region's communities from sea level rise.[4] In the future, climate resilience projects can also mitigate the economic impact of increased drought, flooding, wildfires, heat, and sea level rise. Studies

The estimated job benefit for San Francisco Bay Area coastal resilience projects is 13.2 job-years supported per $1 million of spending on the Bay.

[2] Bellissario, Jeff, "Linking the Environment and the Economy: An Economic Impact Analysis of California Climate Resilience Bond Proposals", Bay Area Council Economic Institute, May 2020. Accessed at: https://resourceslegacyfund.org/tag/climate-resilience/?post_type=publications.
[3] The report used the IMPLAN modeling system to estimate the economic impacts using 2018 industry, transaction, and wage data.
[4] The estimated job benefit is slightly lower than the statewide coastal resilience analysis, since Bay Area wages are higher than state averages across all sectors. While the job impacts per $1 million spent are lower, investments that limit flooding and improve environmental health have a significant longer-term impact on the population of the Bay Area.

have shown that a dollar spent on mitigation dramatically reduces future costs by four to seven dollars or more after a disaster or system failure.

Proposed strategies in the Climate Action Plan (CAP) will also accrue economic impacts beyond greenhouse gas reduction. For example, the building element of the CAP has several strategies around building electrification. Studies show, building electrification in California could support an average of 64,200 to 104,100 new jobs annually.[5] Additionally, if all residential gas appliances were immediately replaced with clean electric alternatives, the reduction of outdoor pollutants would result in 354 fewer deaths, as well as 596 fewer cases of acute bronchitis and 304 fewer cases of chronic bronchitis annually in California. This is equivalent to approximately $3.5 billion in monetized health benefits over the course of one year.[6]

Credit rating agencies, even during a global pandemic and economic recession, are calling out the importance of climate resilience. Moody's listed climate resilience scores for over 6,600 global assets.[7] They upgraded the San Francisco Public Utilities Commission (SFPUC) Wastewater Enterprise in June 2020 and specifically praised SFPUC as being, "unusually proactive in incorporating climate change risks into its capital planning, including costs of necessary system improvements to address sea level rise." This ratings upgrade allows the SFPUC to not only lower its costs, but to broaden its investor base and amplify its efforts to prioritize resilience into the future.

We are also committed to pursuing green bonds. These bonds widen the pool of economic benefits to the City, produce construction-related jobs that benefits a range of small businesses, and reduce borrowing costs by millions of dollars.

The Opportunity and Recommendations

San Francisco has a wide range of developed policies, plans, and initiatives that can support and accelerate an inspired COVID-19 recovery. The recently approved Hazards and Climate Resilience Plan (HCR), ongoing CAP update, Sea Level Rise Vulnerability and Consequence Analysis, and the burgeoning Racial and Social Equity Initiative provide strategies for building a more resilient city. Through thoughtful stakeholder engagement, these efforts can create a just transition, mitigate climate change, and reduce fossil fuels while improving public health, social equity, and the economy.

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[5] Jones, Betony, Karpman, Jason, Chlebnikow, Molly, Goggans, Alexis, "California Building Decarbonization: Workforce Needs and Recommendations." UCLA Luskin School of Public Affairs, November 2019. Accessed at: https://innovation.luskin.ucla.edu/wp-content/uploads/2019/11/California_Building_Decarbonization-Executive_Summary-1.pdf.

[6] Zhu, Yifang, Connolly, Rachel, Lin, Yan, Matthews, Timothy, Wang, Zemin, "Effects of Residential Gas Appliances on Indoor and Outdoor Air Quality and Public Health in California." UCLA Fielding School of Public Health, April 2020. Accessed at: https://ucla.app.box.com/s/xyzt8jc1ixnetiv0269qe704wu0ihif7.

[7] Taken from Moody's ESG and Climate Risk. Accessed at https://esg.moodys.io/.

We recognize the extremely difficult challenges the current budget deficit brings. We know that cuts are unavoidable, and we believe that it is critical to continue funding climate-forward initiatives that provide multiple benefits. In so doing, San Francisco can emerge from the pandemic stronger and safer to immediate and long-term threats. We also believe that by adopting clear recovery investment criteria, such as improving racial equity, climate resilience, and economic vitality, they have the potential to expedite action. The following steps could be taken to support this approach:

Immediate/Shorter-Term

- **Support the Office of Racial Equity in their effort to complete racial and equity plans** for all agencies and use the Equity Analysis Toolkit on each major resilience project to better understand how our work can benefit and impact communities of color.
- **Listen to communities of color** to find out the environmental and climate risks that they face. Engage the community to better understand their values, needs, and priorities.
- **Initiate immediate pilot projects that can improve the daily lives of people of color during early recovery.** This tactic might require a shift of resources and a sequencing of later work. For example, building recycled water infrastructure and investing in Solar + Storage in vulnerable communities would increase racial equity, climate resilience, and economic vitality. Slow streets and other tactical urbanism measures such as paint or additional shade can also address extreme heat that vulnerable populations face in neighborhoods by creating public space where people can socially distance while cooling off.

Longer-Term

- **Initiate a long-term recovery strategy** that develops a comprehensive evaluation and decision-support framework that includes equity, emissions reductions, and climate adaptation.
- **Continue to learn from and integrate best practices** and programs developed by other jurisdictions and organizations.
- **Collaborate with other major San Francisco Bay Area cities** to create a shared platform for advancing a healthy, equitable, as well as pandemic- and climate-resilient region.

COVID-19 will change the way we live, work, and play in San Francisco. By valuing racial and social equity and a just transition to a climate-resilient city as central to the long-term vision of recovery, we can turn this challenge into an opportunity to create a safe, healthy, equitable, and sustainable city for everyone.