



CLINTON GLOBAL INITIATIVE
UNIVERSITY

verizon✓

PROMPT 2: CLIMATE JUSTICE

How can next-generation technology help reduce the unequal impacts of climate change on Black, indigenous, and people of color (BIPOC), children, aging populations, people with disabilities, women, immigrants, and those with low incomes?

In other words, how can we leverage leading-edge technology to advance climate justice?

Prompt Overview

The [United Nations](#) states that “the impacts of climate change will not be borne equally or fairly, between rich and poor, women and men, and older and younger generations.

Climate justice seeks to address inequities worsened by greenhouse gas emissions and the physical impacts of climate change, as well as inequities that come from the steps societies take to slow, stop, and adapt to climate change.

This prompt asks you to think about how leading-edge technology solutions (e.g. 5G, big data, Artificial Intelligence, Augmented/Virtual Reality, and others) can play a role in creating more just outcomes in climate mitigation (slowing and stopping climate change) as well as climate adaptation (surviving and thriving as the climate changes).

Technology solutions targeting the U.S./developed world contexts are of interest. Programmatic solutions are not of interest.

Themes to Consider

Please consider the following themes and questions when developing the focus of your project. These are thought starters and should be used as additional context for the prompt.

Recognize that certain communities are affected differently by climate change

- Understand the ways that the following groups experience climate change: indigenous peoples, Black American communities and other communities of color, children, aging populations, people with disabilities, women, immigrants, and low-income populations.
 - Note: your technology solution may target just one or multiple of these populations.
- Acknowledge the historical legacy of systemic discrimination that continues to expose the above communities to environmental risk.
- Consider the underlying systemic challenges faced by these populations that make them more vulnerable to physical and other risks of climate change.

Explore the varied effects of climate change

- Identify ways in which these communities may experience increased acute and systemic climate change risk and consider how to include them in your project design and deployment.
 - **Acute climate change risks** include short-term impacts such as natural disasters and extreme weather events.
 - **Systemic climate change risks** include long-term impacts such as air pollution, sea-level rise). Some economic impacts, such as job loss, could also be considered systemic climate change risks.
- Consider the ways rising temperatures and sea levels, extreme weather events, food insecurity, and pollution/poor air and water quality impact people.
- Explore how these effects of climate change specifically impact the communities this prompt targets (indigenous peoples, Black Americans and other communities of color, children, aging populations, people with disabilities, women, immigrants, and low-income populations).
- Consider both the risks and opportunities that climate change may bring (e.g. declining jobs in fossil fuel, expanding jobs in renewable energy, shifts in agricultural timelines, plant viability and temperature related mortality).

Consider how technology can advance climate justice

- Reflect on how technology could improve emergency relief efforts.
- Research ways to improve communication and education about climate change and its risks within affected communities.
- Examine how technology can increase access to capital and build a more [inclusive green economy](#).
- Identify ways in which technology can help address environmental health disparities.
- How can technology increase representation in climate change planning and climate justice?
- Can the implementation of emerging technologies cause climate justice impacts? Are there potential unknown unknowns that emerging technology may help us uncover?
- How are you thinking beyond the creation of mobile apps to develop innovative new technology solutions or novel applications of leading edge tech?

Consider barriers to technology availability and adoption

- Consider possible barriers to technology use among these communities. What are the key barriers and how will you address them?
- How certain is it that the intervention will achieve the desired outcomes and impacts? Is it likely that the intervention could produce unintended consequences?

<h3>Questions to Consider</h3>

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| <ul style="list-style-type: none"> ● What is your target population and how can you involve them in the design and delivery of your project? ● What is the potential impact of this project (e.g. number of people, depth of impact, duration of impact)? ● Are there organizations with aligned missions? How can you involve them in the design, implementation, or evaluation of your project? ● Are there any companies or organizations already well-positioned to intervene easily to address your problem? What, according to your research, is preventing them from doing so? ● How might you address issues of safety and privacy -- such as online child safety and data privacy -- that may arise from the implementation of your project? ● Is your solution a mitigation or adaptation approach? In other words, does it apply a justice lens to help slow or stop climate change (mitigation) or help ensure human safety and prosperity for vulnerable groups as the climate changes (adaptation)? ● If your project takes a climate adaptation approach, does it identify and assess physical climate risk (i.e. does it enhance a user's knowledge and understanding about the context-and location-specific risks and |
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impacts of climate change and/or climate variability) or does it **address** physical climate risk (i.e. enhance a user's ability to adapt to and/or build resilience to climate variability and change)?

- How can you apply an intersectional lens to your project that takes into account how someone's additional characteristics (e.g. race, gender, language, geography, disability) might change how they access or interact with your product/service?
- Are there regulations in place that would prevent you from implementing your project? If yes, how will you address them?
- What barriers to uptake do you identify? What strategies will you use to address them?
- How could your project be scaled and replicated to positively impact other climate vulnerable communities? Is it flexible in order to evolve over time and meet evolving adaptation needs?

Current Research

Climate Justice Overview Resources:

- [UN Sustainable Development Overview of Climate Justice](#)
- [What is Climate Justice?](#)
- [Why Climate Change is an Environmental Justice Issue](#)
- [Climate Justice and Intersectionality](#)
- [NAACP on Environmental Justice](#)

Climate Justice and Role of Technology:

- [EPA Environmental Justice Research Roadmap](#)
- [How Technology Can Deliver Climate Justice](#)
- [Environmental Justice and Nanotechnology](#)
- [Examples of How Tech Can Support Climate Justice](#)
- [Biotech's Potential to Address Environmental Injustice](#)
- [How Technology Can Battle Natural Disasters](#)
- [Four Ways Tech Can Help Us Respond to Disasters](#)
- [Technological Advances to Improve Food Security](#)
- [Examples of Tech Innovations Addressing Food Insecurity](#)
- [Toolkit to Build an Inclusive Green Economy](#)
- [Cleaner Tech and Pollution Prevention](#)
- [Technologies to Reduce Air Pollution](#)
- [The Future of Drones in the Insurance Industry](#)
- [Technology and Innovation in the Insurance Sector](#)
- [How AI will affect the future of energy and climate](#)
- [How Developing Countries are scaling up Climate Technology Action](#)

Climate Adaptation vs Mitigation

- [Smart Growth and Climate Change](#)
- [UNDP - Focus Planet - Climate Change](#)
- [Difference Between Mitigation and Adaptation Approaches](#)

Climate Adaptation Resources:

- [How We Survive audio series](#)
- [Adaptations Solution Taxonomy for the developing world](#)
- [EPA Climate Change Adaptation Resource Center](#)
- [US Climate Resilience Toolkit](#)
- [Climate Adaptation - The state of practice in U.S. communities](#)

- [Strategies for Climate Change Adaptation](#)
- [Climate adaptation in rural America](#)

Perspectives from Impacted Communities:

Cities

- [The Meaning of Urban Environmental Justice](#)
- [Green Gentrification and How to Avoid It](#)
- [Urban Heat Islands](#)

Indigenous Peoples

- [Indigenous Communities and Environmental Justice](#)
- [Indigenous Environmental Network](#)
- [The Impact of Climate Change on Indigenous Peoples](#)
- [Interview with Indigenous Author Dina Gilio-Whitaker on Environmental Justice](#)

Black American Community

- [African American Communities and Climate Change](#)
- [Black Americans Care about Climate Change \(But It's Complicated\)](#)
- [Unequal Impact: The Deep Links Between Racism and Climate Change](#)
- [Unequal Protection for Communities of Color](#)

People with Disabilities

- [How Climate Change Disproportionately Impacts Those with Disabilities](#)
- [UN Resources on Climate Change and Rights of Persons with Disabilities](#)
- [Climate Change and the Health of People with Disabilities](#)

Women

- [How Climate Change Disproportionately Affects Women](#)
- [Women in the Shadow of Climate Change](#)
- [Women Paving the Way in Climate Action](#)

Aging Populations:

- [Health Impact of Climate Change in Older People](#)
- [Reducing the Health Risks of Climate Change in Older Adults](#)
- [Older People are Contributing to Climate Change and Suffering from it](#)

Children

- [Climate Change and Health: Children](#)
- [UNICEF: The Impact of Climate Change on Children](#)
- [EPA: Climate Change and the Health of Children](#)

Immigrants

- [Climate Justice and Immigrant Rights](#)
- [Immigration Justice is Climate Justice](#)
- [Climate Migration](#)

Sample Existing Solutions and Solution Types:

Numerous technology solutions address climate mitigation and adaptation. Few, however, address **climate justice**. The list below offers some examples of technology and how it is currently being utilized, not necessarily with a justice lens. Nevertheless, it should also reinforce the abundant need for leading edge technology solutions that address specifically climate justice.

Mitigation

- [Automated emissions reduction \(AER\)](#): Technology enabling electricity-using, internet-connected devices to automatically run at times when energy is cleanest.

- [Cool Roofs: Enhancing Urban Albedo](#): Roofs that use high-albedo materials to indirectly decrease CO2 emissions by reducing electricity use. Increasing albedo can diminish the urban heat island effect.
- [Smart Cities Technologies](#): Smart city technologies use data to solve problems from pollution to detecting leaking pipes to identifying housing at high risk for fire. See this PDF for more details.
- [Electric Buses](#): Transportation accounts for a quarter of global emissions, and e-buses provide a sustainable mass transport option.
- [The CityTree](#): A vertical garden that absorbs 275 times more pollution than its natural counterpart.
- Affordable renewable energy solutions

Adaptation¹

- [AidRobotics](#): A program that identifies and implements a range of appropriate robotics solutions that can accelerate humanitarian efforts.
- [Research to Action Plan](#): This program brings communities and researchers together to investigate potential health risks of environmental degradation—the key aspect is that the affected communities are engaged in both data collection and research translation.
- Tools for physical climate risk exposure assessment
- Weather, climate, and hydrological forecasting, modeling, and analytics
- Solutions to civil engineering problems such as soil erosion and runoff
- Communications, healthcare, IoT, transportation, finance, and education solutions for use during climate-related disasters
- Solutions that allow for more independent living for the elderly or disabled with capabilities to ensure functionality in a disaster situation
- Technology signaling or reducing/eliminating air pollution risk

¹ Some solution categories sourced from: https://lightsmithgp.com/wp-content/uploads/2020/09/asap-adaptation-solutions-taxonomy_july-28-2020_final.pdf