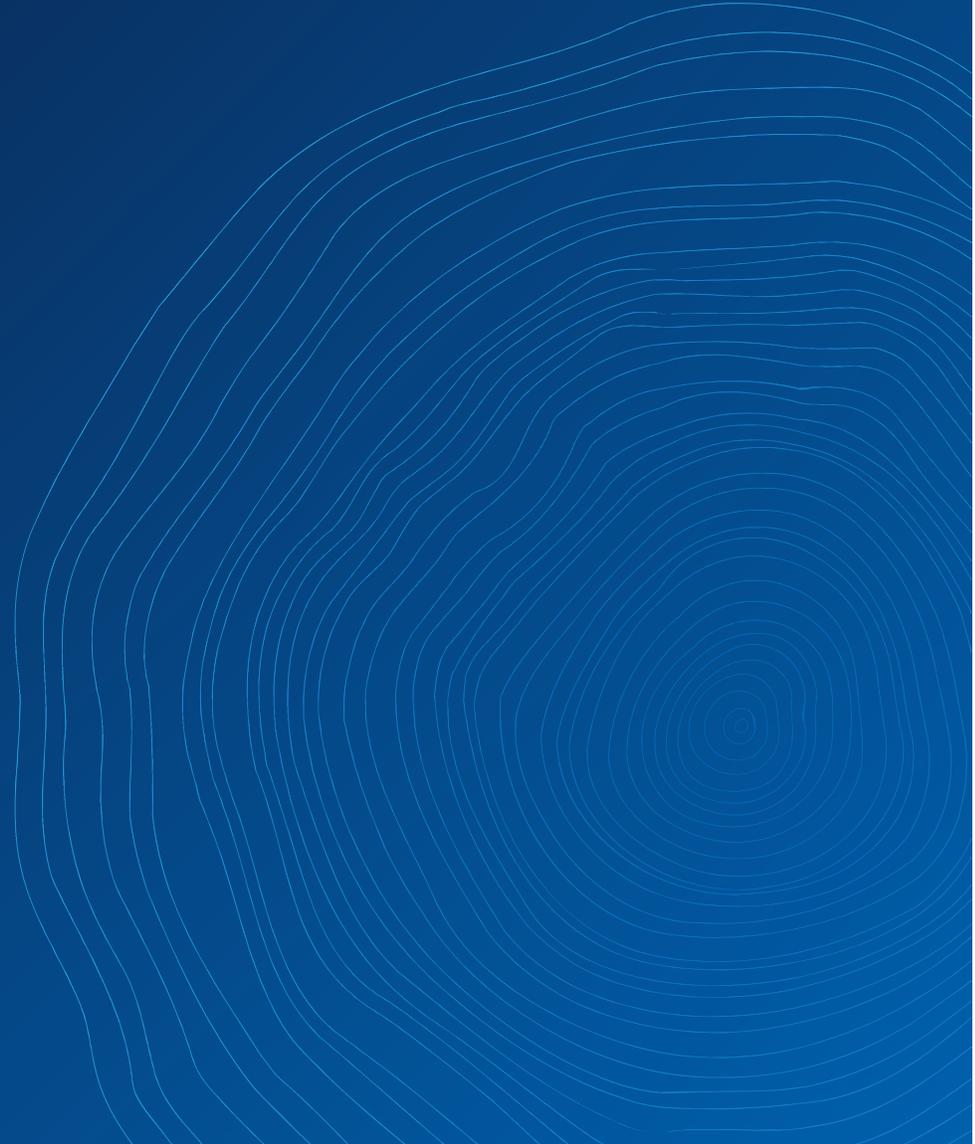


# CLIMATE AND DEVELOPMENT BRIEF

**Delivering for People and the Planet:  
Human Capital, Gender and Climate Change**



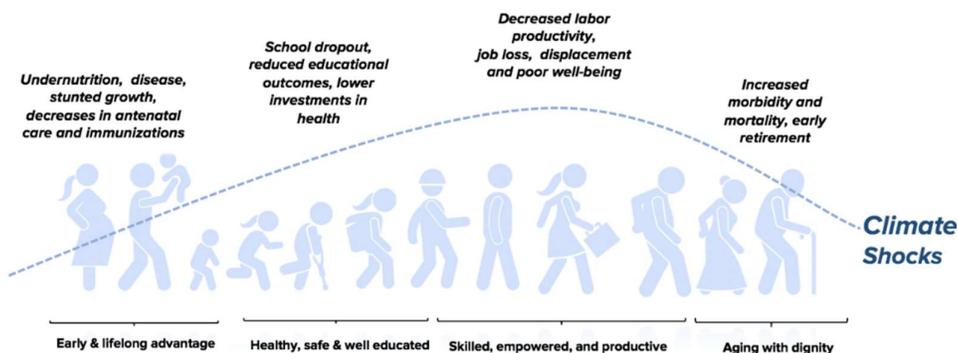
- Climate change is eroding human capital across the life cycle, hurting people's potential, and affecting men, women, and vulnerable groups in different ways.
- Promoting green, resilient, and inclusive development requires addressing gender, human capital, and climate priorities together.
- The World Bank Group is supporting countries to invest in human capital, including the poor and the vulnerable, as well as women, to increase their resilience to a changing climate.
- By investing in human capital and promoting gender equality, countries can provide their people with the skills and abilities to drive climate mitigation, meet the demands of the green economy and ensure a just transition for all.

## The Challenge

**Climate change is eroding human capital at all stages of life, with long-lasting implications for people's well-being and economic productivity.** Climate shocks reinforce pre-existing poverty traps, threaten to increase poverty levels, and deepen inequalities globally.<sup>i</sup> Shocks early in life affect a child's wellbeing and impact productivity in adulthood. Extreme heat, for example, is directly linked to increased hospitalization during pregnancy, chronic and acute malnutrition in early childhood, lower test scores amongst school-age children, a global loss of 470 billion work hours among adults in 2021, as well as over 300,000 deaths of people over 65 in 2019.<sup>ii</sup>

**Many of these impacts constrain economic potential and affect men and women in different ways.** For women, the impacts of climate change are clearest in their economic activities. Women are more likely to earn a living from natural resource-based or climate-vulnerable sectors. While both men and women will be affected, pre-existing inequities may cause women to benefit less from the growth in green jobs as economies decarbonize without deliberate, inclusive policies.

### Impacts of Climate Change in Human Capital Outcomes across the Life Cycle



**Human capital investment and gender-sensitive policies offer the opportunity to mitigate the impacts of climate change, build adaptive capacity, and harness the skills needed for a green and inclusive economy.** If tackled strategically, the transition to a low-carbon economy offers a chance to dismantle current inequities in

the labor markets and create human capital gains from reduced air pollution and other environmental co-benefits. Withstanding climate-induced setbacks to human capital and supporting the climate transition with impactful investments in human capital will help realize the promise of productivity and green growth.

## What Is Needed?

**Action and increased investment are needed now to improve people’s adaptive capacity.** Basic investment in education and healthcare build resilience as people with high levels of human capital have more tools to withstand shocks. Greater awareness of climate change can also spur behavioral change.<sup>iii</sup> Strong disaster risk management and disease surveillance systems, underpinned by robust data, are crucial to minimize adverse impacts and guide an appropriate policy response.<sup>iv</sup> Well-targeted social protection helps to ensure basic levels of consumption, protect people in times of crisis, encourage people to diversify into livelihoods that are less climate vulnerable, allow labor market transitions, and promote savings to guard against shocks.

**Investments in human capital will allow men and women to manage – and benefit from – the climate transition, while tackling current inequities.** Job losses are expected in carbon-intensive industries but there are opportunities too.<sup>v</sup> World Bank research estimates that climate business can generate 213 million cumulative jobs around the world between 2020 and 2030.<sup>vi</sup> Investments in renewable electricity, energy efficiency, charging infrastructure for electric vehicles, green hydrogen supply chains, and climate smart urban transport systems can simultaneously both abate emissions and create jobs in a cost-effective manner. However, these sectors require strong technical skills. To enable poor countries – and poor people globally – to reap the benefits of the transition to a low-carbon economy, education and skills curricula will need to provide job-relevant skills for new opportunities, for example in renewable energy, as well as research in climate change innovation through increased R&D.<sup>vii</sup> The transition to greener jobs also provides an opportunity to reduce economic gender gaps by overcoming social norms around traditionally male-dominated sectors, promoting women’s STEM skills, and expanding access to childcare.

**Climate-proofing and decarbonizing human development service delivery protects critical services and promotes green solutions.** Globally, the health sector contributes an estimated five percent of national emissions. Health service reform can deliver mitigation through energy efficiency and decarbonization of energy supplies. Resource efficient health centers, schools and other social service delivery infrastructure will lower emissions and increase system resilience to limit the interruption of health, education, and social protection services during climate shocks.

**In all policy areas, successful climate action requires involving people in the reform process to ensure a just transition.** The green transition will create winners and losers in the labor market. Meaningful consultation and labor policies will help build social support for climate policies, ensure that programs better meet people’s human capital needs, while also improving climate outcomes. Women’s empowerment

and leadership are central to effective climate action — associated with better resource governance, conservation outcomes, disaster readiness, and the adoption of more climate-friendly decisions in the private sector.<sup>viii</sup>

## How is the World Bank Group Contributing to Solutions?

The World Bank Group (WBG) is investing in human capital to protect people from the adverse impacts of climate change; to build their resilience and capacity to adjust during the transition; and to use their human capital to drive—and thrive in—a low-carbon economy. WBG green investments also connect human capital and gender across the key systems of energy; agriculture, food, water, and land; cities; transport; and manufacturing.

### Protect

**The World Bank supports countries to protect people from the worst impacts of climate change.** Adaptive social protection and climate-smart health and education systems build resilience and mitigate climate shocks. Upstream capacity to respond effectively and quickly in times of crises minimizes negative impacts and can reduce gender vulnerability.

- As of June 2022, the World Bank had financed social protection programs in 60 countries, including \$17 billion in the world's poorest countries. Many of these programs—[Kenya, the Philippines, the Sahel region, Senegal, Sierra Leone, and Solomon Islands](#), to name a few—focus on building **adaptive social protection** systems as well as resilience programs for women.<sup>ix</sup> Such programs in [Niger](#), for example, increased beneficiary incomes by 60 to 100 percent. Similarly, a \$500 million Development Policy Operation in [Morocco](#) aims to improve protection against health risks, human capital losses during childhood, and poverty in old age as well as improving climate risk management and resilience.
- World Bank operations **improve climate resilience of education and health systems**. For example, in FY22 alone, World Bank-financed human development projects invested roughly \$670 million in [Djibouti](#), [Ethiopia](#), [The Gambia](#), and [South Sudan](#) to strengthen health systems with climate-smart design. The World Bank also supports projects for green and resilient school facilities, such as in [Romania](#) where education buildings serving 17,500 pupils will become more energy-efficient and resilient to climate-related hazards.
- The World Bank has developed analytics and assessment tools in the human development sectors to **analyze the risks to and resilience of people and service delivery systems** to inform climate-related investments. The Climate Health Vulnerability Assessment and Climate and Health and Economic Valuation Tool identify potential climate-related health shocks, outline their costs, and how to strengthen systems to respond to them. The [Social Protection Stress Test](#) has

helped over 22 countries assess their readiness to scale up social protection in crises. A [Skills Profiling and Transition Pathways diagnostic tool](#) developed for Poland's coal regions profiles worker skills and preferences to inform potential matching to alternative jobs. Also, a tool that will holistically assess the impacts of climate change on the human capital sectors is under development.

## Build

**The World Bank supports countries to build human capital for women and men to thrive in greener economies.** People need a solid foundation in health and education to achieve their full potential. Strengthening the skills of women and excluded groups can promote inclusion, help unlock climate change innovations, and meet labor supply shortages. Social safety nets help poor people invest in the education and health of the next generation.

- Environmental education fosters **foundational skills and behavior change** for climate awareness and social resilience. In countries as diverse as [Indonesia](#), [Tonga](#), and [Uganda](#), the World Bank supports reforms to school and teacher training curricula that create foundational knowledge on greenhouse gas reduction, changing patterns of rain and floods, emergency responses to cyclones and floods, thereby building resilience to disasters and climate change.
- Climate-smart education systems also develop **skills necessary for climate mitigation**. Technical and vocational training, research in climate change innovation in higher education, and establishing green centers of excellence can accelerate green economic transformation. In [India](#), the World Bank financing supports competitive research grants in climate-related research and development. Several initiatives specifically aim to increase **girls' and women's education, including STEM**, and expand opportunities to access green jobs. These include programs in [Nepal](#) and [Pakistan](#).
- Multisectoral World Bank programs in **climate-resilient nutrition** are a foundational investment to build human capital. In the last five years, the World Bank has supported nutrition through health systems in [Djibouti](#), [India](#), [Madagascar](#), [Mozambique](#), [Philippines](#), and [Yemen](#). Social protection and education programs in [Haiti](#), [Honduras](#), and [Somalia](#), among others, provide complementary services to improve nutrition.

## Use

**The World Bank Group helps reimagine how people live and work, adapting to and mitigating climate change.** Green and just transitions require using human capital effectively and could increase women's employment in renewable technology. Diversification and adaptation in agriculture and livelihoods will be critical as people navigate the green economy. Social safety nets and labor market programs facilitate this transition, minimizing the risks of exploring new jobs and opportunities.

- The World Bank supports [157 Economic Inclusion programs](#) that build **resilience**.<sup>x</sup> Spread mainly across low-income countries, these programs focus on improving resources management and green jobs. Working to facilitate a green transition for poor households, people receive reskilling, labor intermediation, or migrant services, as well as help in investing in sustainable agri-food value chains.
- The World Bank supports **women's economic empowerment for a green transition**. In [South Asia](#), the [Middle East](#), and North Africa, the World Bank partners with civil society, businesses, and donors to support women's labor force participation in [water](#) and clean energy, aiming to get more women into these value chains through investments in STEM, school to work transition, and childcare.
- IFC's [Powered by Women program](#) in Asia Pacific and [Energy2Equal](#) in Africa work with **renewable energy companies on gender-smart solutions** including hiring more women in leadership and technical roles. MIGA is engaged with private sector energy companies in Sub-Saharan Africa to help improve women's access to clean energy and their leadership and employment opportunities.
- World Bank analysis informs the **just transition for all**, with [policy frameworks](#) to help affected workers in India, Indonesia, Philippines, and South Africa.<sup>xi</sup> The World Bank is preparing to support workers at the Komati power plant with reskilling and upskilling, labor market programs to transition to new jobs, and connections with social protection programs.
- **Green public works** financed by the World Bank in [Ethiopia](#), [Fiji](#), [Malawi](#), and [Mozambique](#), among others, provide jobs for the poor while rebuilding ecosystems and reforesting communities.<sup>xii</sup>
- In [12 countries](#), World Bank operations enable **indigenous and local women leaders** to enhance income opportunities in and around forests, investing in local, sustainable, and socially inclusive enterprises to drive climate change solutions.<sup>xiii</sup>

## What Will Success Look Like?

**Success is putting people at the center of the climate change agenda, ensuring that policies capture the full costs and benefits to people.** Proactive citizen engagement around national climate policies will enhance the likelihood that countries can achieve their goals. WBG tools will help governments quantify the costs and opportunities of climate reforms to people's health, education, jobs, and overall well-being to inform evidenced-based policy making. Governments should have the support they need to ensure that their human capital policies and programs are effectively financed to meet the needs of the green, resilient, inclusive economy and to integrate gender equality.

**Climate adaptation should focus first on those people who are most affected by and vulnerable to climate change.** There are many opportunities to deliver for both

people and the planet. Green public works are just one example, providing income for poor households while improving the environment.

**Climate mitigation should meet people's needs in the transition and build their capacity to drive a green economy.** The just transition goes beyond compensation: affected workers need an appropriate mix of skills training, active labor market programs, mobility assistance, and/or economic rejuvenation programs. Building a new green economy requires healthy and skilled people to work in a myriad of new jobs and the time is now to ensure people are prepared for these opportunities.

- 
- i IPCC. 2022. *Climate Change 2022: Impacts, Adaptation, and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate change. Cambridge University Press.
  - ii Romanello, M., Di Napoli, C., Drummond, P., Green C., Kennard, H., & Lampard, P. et al (2022). The 2022 report of the *Lancet* Countdown on health and climate change: health at the mercy of fossil fuels. *The Lancet*, 398 (10311), 1619-1662.
  - iii Lutz et al., 2014; Hoffmann et al., 2017
  - iv Reckien et al., 2018
  - v Campbell, S., & Coenen, L. (2017). *Transitioning beyond coal: Lessons from the structural renewal of Europe's old industrial regions*. Melbourne, Australia: Australian National University. Smith, S., (2017). *Just Transition: A Report for the OECD*. Just Transition Center. Retrieved from OECD: <https://www.oecd.org/environment/cc/g20-climate/collapsecontents/Just-Transition-Centre-report-just-transition.pdf>
  - vi IFC's work in Climate Business. [https://www.ifc.org/wps/wcm/connect/Topics\\_Ext\\_Content/IFC\\_External\\_Corporate\\_Site/Climate+Business#:~:text=Our%20research%20shows%20that%20climate,CO2e%20reduction%20in%20developing%20countries.](https://www.ifc.org/wps/wcm/connect/Topics_Ext_Content/IFC_External_Corporate_Site/Climate+Business#:~:text=Our%20research%20shows%20that%20climate,CO2e%20reduction%20in%20developing%20countries.)
  - vii IRENA, 2020
  - viii Altunbas, Y., Gambacorta, L., Reghezza, A., and Velliscig, G., (2021) Does gender diversity in the workplace mitigate climate change? BIS Working Papers, <https://www.bis.org/publ/work977.htm>
  - ix World Bank Group. 2022. *Charting a Course Towards Universal Social Protection: Resilience, Equity, and Opportunity for All*.
  - x Andrews, Colin et al. 2021. *The State of Economic Inclusion Report 2021: The Potential to Scale*. World Bank
  - xi Ruppert Bulmer et al. 2021. *Global Perspective on Coal Jobs and Managing Labor Transitions Out of Coal: Key Issues and Policy Responses*. World Bank Group.
  - xii Woolf et al, 2015; Hirvonen et al, 2022.
  - xiii Brazil, Burkina Faso, Peru, Democratic Republic of the Congo, Indonesia, Ghana, Mexico, Mozambique, Cote d'Ivoire, Guatemala, Republic of the Congo, and Nepal.