

Demography, Consumption, and Population Dynamics on Climate Change and HIV POLICY BRIEF

Key Messages

- The Paris Agreement commitments require the development of Nationally Determined Contributions (NDCs) to outline climate action targets.
- Higher income countries are usually the main contributors of greenhouse gas emissions and are most likely to have insufficient NDCs (Climate Action Tracker, 2020).
- Climate change has links to the spread of HIV through population displacement. This has impacts on social disruption, food security and higher chance of HIV acquisition (UNAIDS, 2021; Lieber et al., 2021).
- Increased funding and global collaboration can build strategies and policies to mitigate current epidemics such as HIV/AIDS and to prevent future pandemics (Hogg, 2020).

Executive Summary

Human activities have been a major reason for global temperature rising through greenhouse gas emissions. It is crucial to limit the increase of global temperature from exceeding 1.5 degrees Celsius, to prevent the significant impacts on our health, our surrounding ecosystems, and the spread of infectious diseases such as HIV.

Action from policymakers is needed to prioritize climate policy and to ensure that climate action emission targets and the goals of the Nationally Determined Contributions are being met.

Recommendations are based on information presented by researchers during the webinar series “Learning and Relearning for Planetary Health: Early Lessons from a Pandemic¹

Importance of the Problem

As of 2019, the United Nations (UN) reports that humankind only has 11 years left to prevent irreversible damage from climate change (2019). If global temperature continues without mitigation strategies focused on decreasing greenhouse gas emissions from human activity, global temperature will likely increase by an average of 1.5 degrees Celsius between 2030 and 2052 (IPCC, 2018). This looming deadline as well as our continued rising heat levels highlights the need to prioritize climate policy to prevent said damage, especially during our current global demographic transition.

With the ongoing increase in population, there are increased amounts of consumption that contribute to greenhouse gas emissions and rising temperatures. In 2015, Canada, alongside other countries signed the Paris Agreement, with the goal of limiting the rise in temperature from exceeding 1.5 degrees Celsius, achieving zero net emissions, and continued long-term adaptation plans to mitigate climate change. To meet these commitments, the Nationally

¹ On May 20th, 2020, a webinar titled, “*Learning from HIV about population dynamics and spread in the current pandemic, and the geography of consumption related to climate change*” was presented as a contribution to a series on “*Learning and Relearning for Planetary Health*”. The presenters were Dr. Kiffer Card, a post-doctoral fellow at the University of Victoria’s School of Public Health and Social Policy and Dr. Robert Hogg, a Distinguished Professor in the Faculty of Health Sciences at Simon Fraser University and Senior Research Scientist at the BC Centre for Excellence in HIV/AIDS.

A recording of this webinar session and presenter slides can be accessed through this webpage:
<https://learningforplaneta.wixsite.com/website/past-webinars>

Determined Contributions (NDCs) were created by signatory countries (United Nations Climate Change, 2021).

Canada's NDC submission outlined a commitment to reduce greenhouse gas emissions by "30% below 2005 levels by 2030" (Government of Canada, 2020). However, according to the Climate Action Tracker, global NDCs, including Canada's, have been found insufficient in meeting their goals and ultimately their 2030 targets (Climate Action Tracker, 2020). Policy analysts have argued that the reason is the lack of structure and accountability on climate action frameworks as well as auditing measures to determine how ambitious country NDCs are, and whether they are being met (Card, 2020). Moreover, population growth and climate change also have a significant impact on the emergence and spread of infectious diseases. This includes not only the COVID-19 pandemic, but other epidemics such as HIV/AIDs, through changing ecosystems and human demographic migrations.

Background

Population Growth, Consumption and Fertility on Nationally Determined Contributions

To achieve the commitments of the Paris Agreement, participating countries must prepare and apply NDCs which will outline their climate actions in the reduction of CO₂ emissions and the increase of renewable energy efficiency (United Nations Climate Change, 2021). Despite this, in Canada, a significant reduction in emissions has not been met (United Nations, 2019). In 2020, the stay-at-home regulations enforced during the early months of the COVID-19 pandemic reduced emissions (worldwide) by 5% from economic and mobility pauses; however, to reach the 2030 goal, a permanent 7-8% reduction will be needed annually. (Card, 2020; Lee 2020).

The [Climate Action Tracker](#) shows that the NDCs from several countries, especially those of higher income, are insufficient in meeting the goals for the Paris Commitment. This is of concern, as these countries, such as the United States and China are usually the biggest contributors to greenhouse gas emissions. However, the use of a [per capita greenhouse gas emissions](#) measure takes into consideration population size and emissions per person in countries. This provides a different perspective of global greenhouse gas emissions, due to the relative distribution based on country demographics (Card, 2020). To further understand this, a [study](#) by Card et al., was done to examine the relationship between population growth and consumption on greenhouse gas emissions to determine if they would be meaningful targets to include in NDCs. The results showed that higher fertility and population size was associated to higher consumption and greater greenhouse gas emissions. Moreover, per capita measures of greenhouse gas emissions better captured inequalities in consumption, suggesting that consumption should be of focus in NDC targets (Card et al., 2020).

Population Dynamics, Climate Change and HIV

A joint working paper on climate change and AIDS by the UNAIDS outlines a conceptual framework on the links between climate change and HIV/AIDS (UNAIDS, 2021). For example, Climate change can indirectly impact population displacement and lead to social disruption, decreased food security and ultimately increased risk for HIV acquisition (UNAIDS, 2021; Lieber et al., 2021; Hogg, 2020). Population growth and dynamics also intersect with climate change and HIV. It is of importance to reduce greenhouse gas emissions to be able to mitigate climate change and its impacts on the HIV/AIDS epidemic by considering how population and climate policy can be applied to HIV policy plans and frameworks.

The 90-90-90 targets by the UNAIDS aim to ensure that 90% of people who are infected with HIV are diagnosed, 90% of those people are on antiretroviral therapy, and 90% of those people are virally suppressed (UNAIDS, 2021). Currently, both globally and in Canada, these goals have not been reached, but there has been significant progress through advancements in HIV testing and treatments along with policy plans such as the Presidential Emergency Plan for AIDS Relief ([PEPAR](#)). The COVID-19 pandemic has demonstrated the possibility of coordinating strong global collaborative efforts. These same efforts can be used in addressing and mitigating climate action for the prevention of future pandemics and epidemics and ensure a just recovery (Hogg, 2020).

Policy Recommendations

Policy options include:

1) Inclusion of Population growth factors in NDC Targets

- i. To improve the capacity for Canada to meet its climate change targets, policy makers should use [existing research](#) about the impacts of [consumption](#) on greenhouse gas emissions when developing climate action policies and to improve future NDCs. Must use per capita measures of greenhouse gas emissions to better capture inequalities in consumption when developing these policies (Card, 2020).
- ii. The development of population growth policies should consider [women's rights, health and wellness \(e.g., autonomy, reproductive care\)](#) when creating target outlines. Out of 160 NDCs, only one considers girl's education. Education is key, as it can influence fertility rates, as well as improve reproductive justice and control, education, autonomy for women and their inclusion in decision making. (Card, 2020; Kwauk et al., 2019)

2) Accountability framework for Nationally Determined Contributions

- i. Policy makers should commit to the development of a climate accountability framework for the NDCs and report progress of national climate targets. [The Climate Change Accountability Report](#) from British Columbia is a valuable source for policy plans which is expanded further by the Canadian Institute for Climate Choices (Kanduth, 2021).
- ii. To better achieve and reach emission targets, the existing policy recommendation report of [Marking the Way: How Legislating Climate Milestones Clarifies Pathways to Long-Term Goals](#) can be further used in the development of climate policy and long-term target planning (Benoit et al., 2017).

3) Inclusion of Population growth in HIV policy

- i. Policy plans should review the inclusion and consideration of the impacts of population on HIV and climate change. The [UNAIDS joint working paper on Climate Change and AIDS](#) offers a detailed framework on several pathways that are affected by the link of climate change a HIV, as well as recommended actions for future work.

4) Increase HIV funding and collaboration

- i. Commit to supporting increased funding and expanding global collaboration to not only address the COVID-19 pandemic but also the HIV epidemic. Build strategies for coordinated prevention of current epidemics and future pandemics (Hogg, 2020)

- ii. Advocate for country leadership for fast implementation of strategies and policy to address the ongoing HIV epidemic by reaching the 90-90-90 goals set by UNAIDS (Hogg, 2020; UNAIDS 2021).

Word count: ~ 1393
(excluding the key messages box)

Sources Consulted & Recommended

Beugin, D., J. Dion, A. Kanduth, C. Lee, D. Sawyer, and J. Arnold. 2020. Marking the Way: How legislating climate milestones clarifies pathways to long-term goals. Canadian Institute for Climate Choices. <https://climatechoices.ca/reports/marking-the-way/>

Government of Canada. (2020). *United Nations Framework Convention on Climate Change*. Retrieved 8 February 2021, from <https://www.canada.ca/en/environment-climate-change/corporate/international-affairs/partnerships-organizations/united-nations-framework-climate-change.html>

Card, K. (2020). *Demography and consumption - Prioritizing climate policies in an era of global demographic transition*. Learning and Relearning for Planetary Health: Early Lessons from a Pandemic, Session 6, <https://www.meethere.org/conferences/learning-for-planetary-health>

Card, K., Pierzchalski, J., Aran, N., Gislason, M.K., Allan, B., Takaro, T., Roth, E., Hogg, R. (2020). Demography and Consumption: Prioritizing climate policies in an era of global demographic transition. [PowerPoint slides]. Learning and Relearning for Planetary Health: Early Lessons from a Pandemic, Session 6, <https://www.meethere.org/conferences/learning-for-planetary-health>

Card, K. *Climate Change — KIFFER CARD*. KIFFER CARD. Retrieved 8 February 2021, from <https://kiffercard.com/climate-change>.

Clean BC. (2020). 2020 Climate Change Accountability Report. Retrieved from https://www2.gov.bc.ca/assets/gov/environment/climate-change/action/cleanbc/2020_climate_change_accountability_report.pdf

Climate Action Tracker. (2020). *Countries | Climate Action Tracker*. Climateactiontracker.org. Retrieved 8 February 2021, from <https://climateactiontracker.org/countries/>.

Hogg, B. (2020). *HIV risk and Climate Change - Linked by Food Insecurity* Learning and Relearning for Planetary Health: Early Lessons from a Pandemic, Session 6, <https://www.meethere.org/conferences/learning-for-planetary-health>

IPCC, 2018: Summary for Policymakers. In: *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate*

- poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. *World Meteorological Organization, Geneva, Switzerland, 32 pp.*
- Kanduth, A. (2021). *Climate accountability in action | Canadian Institute for Climate Choices*. Canadian Institute for Climate Choices. Retrieved 8 February 2021, from <https://climatechoices.ca/climate-accountability-in-action/>.
- Kwauk, C., Cooke, J., Hara, E., & Pegram, J. (2019). *Girls' education in climate strategies Opportunities for improved policy and enhanced action in Nationally Determined Contributions*. Reliefweb.int. Retrieved 8 February 2021, from <https://reliefweb.int/sites/reliefweb.int/files/resources/girls-ed-in-climate-strategies-working-paper-final.pdf>.
- Lee, M. (2020). *The energy transition and a low-carbon reboot*. Learning and Relearning for Planetary Health: Early Lessons from a Pandemic, Session 3, <https://www.meethere.org/conferences/learning-for-planetary-health>
- Lieber, M., Chin-Hong, P., Whittle, H. J., Hogg, R., & Weiser, S. D. (2021). The Synergistic Relationship Between Climate Change and the HIV/AIDS Epidemic: A Conceptual Framework. *AIDS and Behavior*, 1–12. <https://doi.org/10.1007/s10461-020-03155-y>
- United Nations. (2019). *Only 11 Years Left to Prevent Irreversible Damage from Climate Change, Speakers Warn during General Assembly High-Level Meeting | Meetings Coverage and Press Releases*. Retrieved 28 October 2020, from <https://www.un.org/press/en/2019/ga12131.doc.htm>
- Paris Equity Check. *Paris Equity Check | Equity Map*. Paris Equity Check. Retrieved 8 February 2021, from <http://paris-equity-check.org/multi-equity-map.html>.
- PEPFAR. *PEPFAR*. HIV.gov. Retrieved 8 February 2021, from <https://www.hiv.gov/federal-response/pepfar-global-aids/pepfar>.
- United Nations (2019). *Emissions Gap Report 2019*. Retrieved February 9, 2021, from <https://wedocs.unep.org/bitstream/handle/20.500.11822/30797/EGR2019.pdf?sequence=1&isAllowed=y>
- UNAIDS. *Climate Change and Aids: A Joint Working Paper*. UNAIDS. Retrieved 8 February 2021, from https://data.unaids.org/pub/basedocument/2008/20081223_unep_unaids_joint_working_paper_on_cca_en.pdf.
- UNAIDS. (2021). *90-90-90: treatment for all*. Unaid.org. Retrieved 8 February 2021, from <https://www.unaids.org/en/resources/909090>.

United Nations Climate Change (2021). *The Paris Agreement*. Retrieved 8 February 2021, from <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>