Climate Policy Needs to Address the Urgency of Ensuring Sustainable, Equitable, and Climate-Compatible Food and Agriculture Systems

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INTRODUCTION

Brighter Green welcomes the opportunity to submit input to the COP 24 Talanoa Dialogue process and to the essential tasks of taking stock of progress, and increasing ambition. The Paris Agreement is a significant milestone on the pathway toward a stable climate. But the Agreement and Conference of the Parties (COP) summits have largely ignored a crucial fact: what the world eats and how it produces its food are extremely important factors in addressing climate change, more than most governments and their citizens generally recognize. The Talanoa Dialogue provides an invaluable opportunity for parties and stakeholders to hold a frank discussion on what is needed to meet and exceed the Paris targets; we believe the Dialogue should address largely unacknowledged, but essential, facets of a just transition, specifically in global and national food and agricultural systems.

Without targeting food and agriculture emissions more effectively and directly, the Paris targets cannot be met. The ongoing expansion of animal agriculture and the need to drastically reduce GHGs contradict one another. The Intergovernmental Panel on Climate Change's special report includes four scenarios to achieve a 1.5°C increase in atmospheric warming and paint a stark reality. GHG emissions from agriculture—principally through the production of animal-based foods—must be curtailed as we also transform our energy sector to renewables and protect, vastly expand, and restore the world's forested areas.

Brighter Green's submission is intended to suggest ways to shift policy, practice, and public education within the framework of the UNFCCC, SBSTA, the KJWA, the finalization of the next NDCs, and global, national, and sub-national climate policy. Brighter Green seeks to engage and collaborate with others to push forward ambitious climate action (global, national, sub-national, and local) in the food, agriculture, and land-use sector, by focusing on mitigation and the co-benefits offered by shifting diets and production methods toward more sustainable, equitable, and climate-compatible models. We welcome feedback from and interest in further dialogue and collaboration with parties, observers, and other stakeholders.

KEY POINTS

- Without addressing food and agriculture emissions more forcefully, the Paris targets and the goal of limiting atmospheric warming to 1.5°C cannot be met
- Non-CO_2 GHGs in the agriculture and land sector, as well as other sectors, should be addressed more directly
- Including comprehensive food and agriculture policy measures in NDCs offers an opportunity to reduce GHGs and promote food security
- Multi-stakeholder collaboration is needed in both the short and long terms, including within the UNFCCC and national and sub-national climate policy-making processes
- Policies that shift consumption as well as production patterns, especially in populations with historically high consumption of animal products, have many co-benefits that can help ensure the protection of public health, forests and other ecosystems, biodiversity, livelihoods, and more
- Public procurement is an excellent space to test out bold policies and practices

WHERE ARE WE?

It is no longer a matter of debate: non-CO_2 GHGs in the agriculture and land sector must be central to global, national, and sub-national climate policy. Including concrete, comprehensive food and agriculture policy measures in NDCs offers an opportunity to reduce GHGs as well as promote food security, protect biodiversity and non-human animals, and advance public health goals.

Government parties to the Paris Agreement acknowledged that the pledges they made were inadequate (as contained in Intended Nationally Determined Contributions, or INDCs). The recent IPCC 1.5°C report makes clear that future plans will have to be more ambitious. Both developed and fast-growing emerging nations will need to reduce GHG emissions throughout their economies and not just in the energy sector. A growing body of research concludes that agriculture and food systems must be central to current and future climate policy, both at global and national levels.

Shifts toward more plant-rich diets can go a long way. Replacing 30 percent of beef in an individual's diet with legumes lowers GHG emissions associated with that diet by 16 percent. Food consumption can contribute up to 14 to 20 percent of a city's total GHG emissions, based on U.S. cities who have measured food's contribution.

"Food" appears three times in the Paris Agreement text. Article 2 contains an important call to safeguard "food security" and end hunger and to recognize the "particular vulnerabilities of food production systems to the adverse impacts of climate change." These are goals Brighter Green strongly supports. However, the language used does not capture the destabilizing effects climate change already is having on agriculture, through more frequent droughts, erratic rainfall, higher temperatures, and desertification.

Article 2 also commits governments to "strengthen the global response to the threat of climate change" by, among other measures, "Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production." This text could be interpreted to mean that the "production" aspects of agriculture, i.e., increased yields and volume, should be protected from any actions that could change the status quo. A converse exists, too. It can be argued, with solid data, that the current model of intensive animal agriculture, created in industrialized regions and now becoming increasingly common globally, itself threatens food production.

We already use three-quarters of Earth's arable land and a third of cereal crops to feed farmed animals, which could rise to half by 2050,[1] especially as the UN estimates that global annual meat production will grow to 376 million metric tons by 2030.[2] A recent study calculated that domesticated livestock constitute 60 percent of the biomass of all mammals alive on Earth (humans were 36 percent and wild species a mere four percent).[3] In 2018, new records have been set for heat around the planet.[4] Projections of temperature increase in mid-century (over 2000) threaten to diminish crop yields in the U.S. "breadbasket" and many other regions.[5] This makes it harder to grow the corn and soy that feed billions of farm animals in the U.S. and around the world.

WHERE DO WE NEED TO GO?

The global food system as a whole (farming, transportation, packing, etc.) contributes 20 to 30 percent of anthropogenic GHG emissions.[6] The FAO has calculated that the global livestock sector accounts for 14.5 percent of anthropogenic GHG emissions.[7] Carbon dioxide is released via soil tilling and the transport of livestock and feed grains, such as corn and soy. It is also released by treating livestock-feed grains with nitrogen-based fertilizers and petroleum-based pesticides.[8]

Methane, though lower in concentration in Earth's atmosphere than CO_2, is much more efficient in trapping heat. Methane emissions result mainly through the belching and flatulence of ruminant livestock, as well as storage of manure.[9] Nitrous oxide, another major greenhouse gas, is also released primarily through animal waste.[10] According to the World Resources Institute, global emissions from agriculture increased eight percent from 1990 to 2010, with population growth and dietary change being the greatest drivers.[11]

According to the Environmental Working Group (EWG), lamb and beef have the highest rates of GHG emissions at 39.2 kg and 27.0 kg of CO_2 equivalent per kilogram of food consumed.[12] The third largest culprit is cheese, although its emissions per kilogram are less than half those of beef. Pork, farmed salmon, turkey, and chicken follow close behind.[13] Soybeans grown to feed livestock also contribute to climate change and mass deforestation and loss of other kinds of vegetation, including in Brazil's Cerrado, the most biologically diverse grassland in the world.[14] Every year, 6,100 square miles of the Cerrado are destroyed to make room for cattle, soy, and sugarcane used for ethanol production.[15]

Governments in Paris pledged to keep global temperature increases to less than 2°C above pre-industrial levels and to work toward the more ambitious target of limiting the overall temperature rise to 1.5°C. But simply to hold temperatures below 2°C will require not only the rapid reduction of CO_2 emissions, but also those of other GHGs, including methane, which is up to 84 times more potent a GHG than CO_2. It also has a much shorter life in the atmosphere than CO_2, suggesting that reducing methane emissions, in line with reducing CO_2, could have a considerable short- and long-term effect on atmospheric warming. Nearly half of the world's methane emissions come from the livestock sector.[16]

Brighter Green's research and that of other research organizations, as well as a growing body of natural and social scientists, conclude that this system of food production and agricultural development also forestalls the possibility of promoting sustainable, equitable, and climate-resilient food systems. This is due to industrial animal agriculture's enormous water, land, and chemical fertilizer requirements; the monocultures it creates, of both non-human animals and feed crops; the massive water pollution, deforestation, and biodiversity losses it requires; and, of course, the GHG emissions embedded in the production system itself.

These impacts are acknowledged increasingly in industrialized countries, and Brighter Green's research documents how they are being felt in countries throughout the world now, too.[17] More than 70 billion animals are used in food production each year; this number could reach 120 billion by 2050 if the current trajectory is unchanged.

Increasingly, researchers agree that such a scenario is wholly unsustainable and incompatible with global climate goals. They also agree that it will be almost impossible to achieve the targets agreed in the Paris Agreement without a shift to eating and producing less meat and other animal-based foods.[18] Yet, the large-scale awareness and change—from climate negotiators, policy-makers, the private sector, institutions, international agencies, and the world's citizens—is still only a fraction of what is required.

HOW DO WE GET THERE?

The FAO defines sustainable diets as "diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources."

In 2014, Nature published the article, "Global diets link environmental sustainability and human health," which directly addressed the environmental costs of the industrialized food system.[19] The authors propose

that vegetarian, pescetarian, and Mediterranean diets could help decrease both rates of non-communicable diseases (NCDs) as well as agriculture-related GHGs and species extinction.[20]

Researchers from Cambridge University found in a study published in 2014 that a global transition to healthier diets could cut CO_2 equivalent emissions by an extra 6 billion tonnes by 2050, nearly all from reduced meat consumption.[21] A focus on dietary change could also lower the costs of climate mitigation by up to 50 percent by 2050.[22]

In March 2016, researchers at Oxford University published an analytic report with the conclusion that reducing meat consumption and transitioning to plant-based diets would cut GHG emissions by between 29 and 70 percent by 2050 and save up to eight million lives each year by 2050. They also calculated that plant-centered diets could save between U.S.$ 700 billion and one trillion annually in global healthcare costs. The researchers found the greatest reductions in GHGs and the largest numbers of deaths avoided came from adopting vegetarian and vegan diets.[23]

Nonetheless, global meat consumption could rise by 76 percent by 2050. Without government intervention, consumers are unlikely to eat less meat, and agricultural producers have little incentive to reduce supply. This leaves governments trapped in a cycle of inertia, including with regard to climate policy. Yet, research by the think tank Chatham House and University of Glasgow conducted in Brazil, China, the U.S., and the U.K suggests that publics expect governments to lead in the area of climate change and food and agricultural policy, and the risks of a backlash are overestimated.[24]

A multi-pronged approach by governments, cooperating with researchers, civil society organizations, educational institutions, and other stakeholders is most likely to succeed. Public education campaigns to raise awareness of the climate consequences of meat production and consumption could be joined to efforts to inform people about the health benefits, too, drawing on efforts underway in many countries to educate publics about the risks of abusing tobacco and alcohol, or overconsuming processed and “junk” foods, and drinking sugar-laden sodas.

While essential, raising public awareness is not sufficient. National guidelines for sustainable and healthful diets are also needed to 1) lay out the links between what we eat, natural resources like water and energy, GHGs, and long-term food security; and 2) encourage and support individuals and institutions to purchase and consume more plant-based foods and less meat and other animal-based foods. Such national directives are now recognized as an important element in a comprehensive approach to ensuring healthier diets and addressing climate change.

Procurement is another key area. Governments are often the largest buyers of food products, for example for schools, state institutions like hospitals and government ministries, and militaries. Governments can and should also work with industry to develop labels that clearly identify low-GHG, healthier, more sustainable food products; and encourage investment in the research and development of alternatives to animal-based protein, including plant-based proteins and cellular meat; and create a regulatory environment to support such innovation.

Animal agriculture as a whole must change. Governments should take bold steps to internalize the costs of meat production, including to the global climate, and end tax and other incentives for growing feed crops. Governments should identify and remove or redirect subsidies and fiscal policies, or other facets of policy and political support, for practices that put at risk the goals of the Paris Agreement and more ambitious targets, and that have negative effects on forests, other ecosystems, soils, water, and overall resilience to the effects of global warming.

This would mean a reorientation from large-scale animal agriculture toward more sustainable, climate-compatible means of producing and consuming food. Such a transition would also provide opportunities for protecting forests, grasslands, and soils, as well as restoring landscapes to enhance nature-based systems of carbon sequestration. Such protection and restoration will also have multiple additional benefits for natural resources (e.g., water, land, air), public health, livelihoods, and biodiversity.

Major strides are being made in developing cellular meat, dairy, and fish products.[25] Plant-based meats are proliferating and plant-based milks are now 13 percent of the U.S. milk market.[26] At the moment, private capital[27] (including from some agribusinesses[28]) is pushing this change, but it isn't enough. Governments shouldn't just regulate the protein-delivery system,[29] but help transform it to feed the growing human population well and equitably and with much lower GHG emissions.

In many countries of the global South, awareness of the connections between NCDs, food security, and the Western diet and Western methods of food production is limited, even as global food corporations target these countries for expansion. The asymmetries in this equation need to be changed, and it is the responsibility of policymakers, researchers, public health professionals, academics, and civil society to promote and ensure this change through a variety of means and institutions.

The next set of NDCs (to be submitted in 2020) offers an opportunity for countries to include measures to achieve this, through bold supply and demand side interventions. The UNFCCC should provide technical assistance for parties to integrate food and agriculture into NDCs, guided by the stark realities and opportunities for large-scale action laid out in the recent IPCC report.

Global climate and development policies should put a priority on promoting sustainable diets and systems of food production. Several of the United Nations' 17 Sustainable Development Goals (SDGs) would support such efforts, especially goals 2 (zero hunger), 3 (good health and wellbeing), 12 (responsible production and consumption), 13 (combat climate change and its impacts), and 15 (life on land). As the SDGs more fully inform global development priorities and funding for them, and are integrated with global climate policy, it will be important for researchers and advocates for sustainable diets and food systems to encourage governments and international agencies to develop concrete policy measures and provide the budgets needed to implement them.

Given the potential, and the benefits, we conclude this submission by asking: Why wouldn't reducing GHGs from meat and other animal-based foods consumption and production become a priority for governments through the Talanoa Dialogue and follow up processes? Stabilizing the global climate—and ensuring the protection of public health, forests and other ecosystems, biodiversity, livelihoods, the lives of billions of animals (both domesticated and wild)—requires no less.

Brighter Green is a New York City-based public policy action tank that works to raise awareness of and encourage policy action on issues that span the environment, animals, and sustainability. Brighter Green has been participating as an NGO observer in the UNFCCC since COP 15 in 2009. Brighter Green works in the U.S. and internationally with a focus on the countries of the global South and a strong commitment to ensuring and expanding equity and rights. On its own and in partnership with other organizations and individuals, Brighter Green generates and incubates research and project initiatives that are both visionary and practical. It produces publications, websites, documentary films, and programs to illuminate public debate among policy-makers, activists, communities, influential leaders, and the media, with the goal of social transformation at local and international levels.

http://www.brightergreen.org

ENDNOTES

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