

University of British Columbia

Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

# “Climate-Friendly” Food Systems at UBC

## Community Engagement to Define and Inform Climate Action

Prepared by: Shalini Poornima Madushani Nanayakkara

Prepared for: SEEDS Sustainability Program and UBC Botanical Garden

Course Code: VOL 500

University of British Columbia

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*Disclaimer: “UBC SEEDS Sustainability Program provides students with the opportunity to share the findings of their studies, as well as their opinions, conclusions and recommendations with the UBC community. The reader should bear in mind that this is a student research project and is not an official document of UBC. Furthermore, readers should bear in mind that these reports may not reflect the current status of activities at UBC. We urge you to contact the research persons mentioned in a report or the SEEDS Sustainability Program representative about the current status of the subject matter of a report”.*



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# Executive Summary

What does a climate-friendly food system look like? The definition of a climate-friendly food system (CFFS) varies across people, research interests, cultures, and experiences. This student-led research with the University of British Columbia (UBC) Climate-Friendly Food System Action Team and Applied Research Team gathered and analyzed diverse community perspectives on climate-friendly food and reviewed how universities should go about implementing them.

## **Issue Statement**

The climate emergency and biodiversity crisis require dramatic changes in our food and agricultural supply chains. Food systems are responsible for 34% of global greenhouse gas (GHG) emissions and are a significant contributor to climate change and biodiversity loss (Crippa et al., 2021; Ritchie & Roser, 2020). Food systems, and agriculture in particular, will need to adapt as the climate changes. Current food systems also place severe strain on people, animals, and the environment. From farmers to consumers, participants in food systems face a myriad of challenges. From food production to disposal and recovery, food stage processes are unsustainable for current and future generations (Holden et al., 2018).

Food-related emissions at UBC mimic global proportions. Campus food systems account for over 29,000 t-CO<sub>2</sub>e per year and are the second highest category in Extended Impact (scope 3) emissions, after commuting (UBC Board of Governors, 2021). To reduce GHG emissions and promote a holistic approach to climate-friendliness, the CFFS Action Team explores approaches that could merge mitigation and adaptation efforts to advance a more climate-friendly, equitable and accessible food system at UBC.

## **Research Purpose**

This work builds on previous efforts over the past 20 years at UBC at the intersections of climate and food. The research and community engagement deliverables included developing a working “Definition” for a climate-friendly food system. Results of the research found that many people agree that a climate-friendly food system should first and foremost aim to reduce GHG emissions. However, there was significant agreement that for UBC, a CFFS must be holistic and include more features than just GHGs. Based on these engagement findings, a comprehensive

working list of additional features were developed and are described as “Attributes”. In addition to a Definition and Attributes of CFFS, this project informed UBC’s first ever climate-friendly food system label and provided key marketing and communications research to inform the design of a digital climate-friendly food system toolkit. The label and toolkit were chosen as methods to help UBC community members make informed decisions on climate-friendly food options and to galvanize systems-wide transformation at the institutional level.

## Methods

The process to inform and develop each deliverable incorporated a variety of empirical research and community-based research methods. Empirical methods include literature reviews of academic and organizational publications and environmental scans on how peer institutions and organizations are conducting CFFS. Community-based methods included group feedback from (1) key UBC stakeholders such as the CFFS Action Team and the UBC Student Sustainability Council and (2) the North American sustainability network, Campus as a Learning Lab (CaL), and (3) one-on-one discussions with food and hospitality services representatives at leading peer institutions in North America such as Stanford University and University of Michigan (n=11), an Indigenous Food Sovereignty community leader (n=1), and a representative from the City of Vancouver (n=1).

This research explores how an empirical and community-based mixed approach can begin to address climate change mitigation (i.e., GHG reduction) in a manner that involves adaptation efforts in key climate-related areas, such as biodiversity preservation and community resilience. A complementary report by Silvia Huang will discuss the implementation of this mixed approach in developing the climate-friendly food label.

## Results

The findings suggest that research and perspectives on what should be included in CFFS is complex, varied, and not always compatible. The working Definition, initially developed by the CFFS Action Team and built on in this project, aims to highlight actions and guiding principles to create positive outcomes for people, animals and the planet.

The working Definition is as follows:

“UBC aims to operate within a **climate-friendly, just and accessible** food system, which means being committed to **operating within planetary boundaries** by reducing our **GHG food system footprint** and enhancing food system **resiliency** from **production to end disposal**

**and recovery**, while producing **positive outcomes for people, animals and planet**" (UBC Climate-Friendly Food System Action Team, 2021, p.7).

Community engagement feedback suggested that “justice” and “accessibility” are key factors to enact long-lasting and meaningful change. These two attributes are not inherent factors to lay or even academic understandings of climate-friendliness and must be called out explicitly to normalize their presence in CFFS. To help operationalize the Definition, 15 Attributes (Fig. 1) were developed under three thematic pillars: to (1) reduce GHG emissions, (2) support a resilient and regenerative food system, and (3) support food justice. In both reviewing research and eliciting community feedback, contradictions arose due to the complex realities and perspectives found in our food systems and in people’s values. It may be challenging to reconcile some conflicting cases, where what is best for the planet may not be what is best for people, and what is best for people may not be best for animals, and so forth. For example, this report presents findings that purchasing local on its own may not reduce GHGs, but purchasing local *and* in-season can (Macdiarmid, 2014; Buchheister et al., 2020). And while buying local food by itself may not be synonymous with reducing GHGs, supporting local food suppliers can also benefit a CFFS in other ways, such as improving local economic resilience (Fan et. al, 2021).

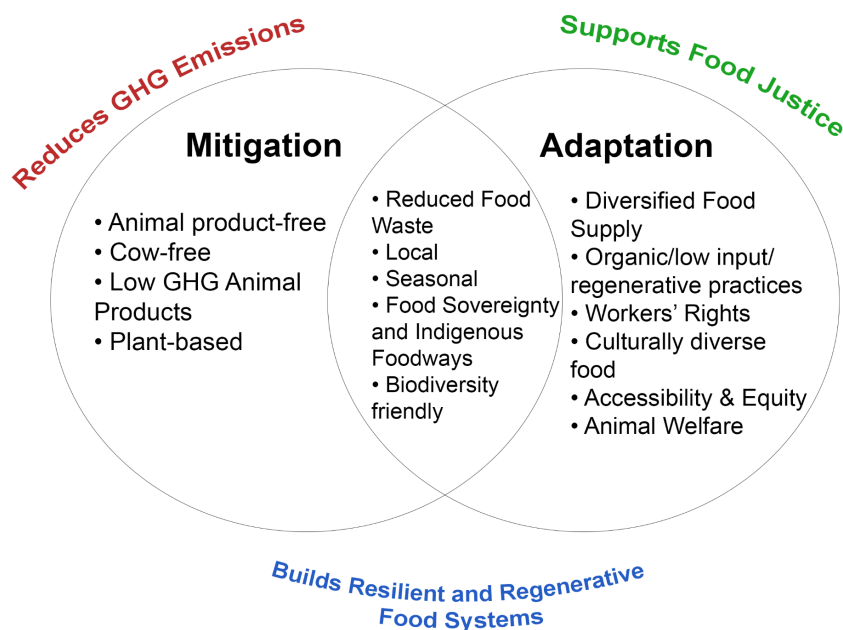


Figure 1: The 15 Climate Friendly Food System (Draft) Attributes are quantitative and qualitative actionable areas to reduce GHGs, build better food systems, and/or support food justice. This approach spans both mitigation and adaptation efforts.

Some Attributes may work together, and others may not. In considering a whole systems approach, tradeoffs will need to be made regarding which Attributes to implement in order to prioritize impact, feasibility and sustainability of CFFS projects. For example, incorporating Attributes beyond GHG reduction to the CFFS label presents operational challenges due to the qualitative nature of some Attributes (see complementary report by Silvia Huang). The answers may not all be found in this research, but this integrated approach has been agreed upon by the majority of consulted parties as necessary to create meaningful change in the intersections of climate and food.

In researching best practices for a CFFS toolkit and communications, key themes emerged around using clear language, knowing your audiences, and presenting information in a relatable, interactive manner on digital platforms. These aspects are critical to achieve buy-in from community, partners and stakeholders at all levels, to get people informed, invested and excited about food system transformation. CFFS is a complex topic, and its complexities must be demonstrated as clearly and simply as possible to effectively raise awareness, foster inclusivity and build momentum for change.

## **Recommendations**

This research begins to consider the complexities found in CFFS at UBC and at large, but further research and consultation is required across all CFFS initiatives. In particular, there is a need to develop a more robust understanding of equity and accessibility, the impact of Attribute trade-offs, and to further develop the next phases of CFFS initiatives at UBC. Work must be done to consider which Attributes can be accurately advanced through on-the-ground projects like the label, and which may be best developed through more qualitative avenues such as relationship-building and education. This process must include further consultation, particularly with the UBC Food Services team; UBC community groups such as students and campus food organizations; other university groups also advancing climate-friendly food initiatives; Indigenous Food Sovereignty groups; and food producers involved in the UBC food system. Further consultation can help us understand how the findings of this report can be further refined in some parts, expanded in others, and ultimately operationalized to achieve climate goals and meet the needs of our food system partners.

When diving into the extensive and diverse field of climate-friendly food systems, it is important to remember that food is personal. It is based on bodily experience, culture, upbringing, and life values. This can often make conversations around CFFS contentious and challenging, as sustainability in general is often centered around reduction and minimization (Ray, 2020), rather

than considering the experiences and needs of the people, animals and planetary systems involved. This oversight can be alienating and may lead to unforeseen harm against food system participants, including our climate, if knowledge-holders are not consulted. While it is difficult work, food system participants are generally eager to discuss their opinions, research, and what they found worked well or didn't, making the daunting challenge of transforming food systems into a promising one. It is necessary to hold together, share, and work through these contradictory, complex, messy truths about the impact of our food system. Perhaps then, when anyone is asked the question, "What does a climate-friendly food system look like?" we will all know how and where our values and perspectives fit into such a food system – and, most important of all – we can imagine ourselves being part of such a food system.

**Keywords:** climate emergency, climate mitigation, climate label, eco-label, climate action toolkit, food systems

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