

**Assessment of UBC's Sustainability Performance:
Waste Diversion & Disposal**

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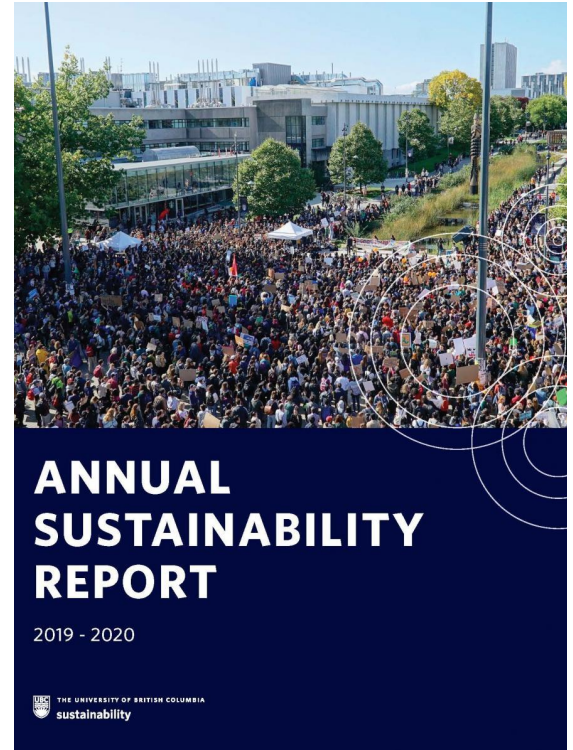
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**Waste Diversion
&
Disposal**

Overview

Introduced in 1990 via the Talloires Declaration and formally established in 2010, UBC Sustainability is a body committed to advancing the operational, academic, and community engagement activities at the University of British Columbia (UBC) with sustainability at its heart.² Since 2008, UBC Sustainability has been generating **Annual Sustainability Reports (ASRs)** that review the performance of UBC in various domains of sustainability.



Dominant themes across these reports are the **reduction, diversion, and disposal of waste**. This includes waste from construction projects, laboratory activities, and residence life.

Thus far, proposed solutions focus on:

Production Process

Waste material is modified from a single-use material to a biodegradable one.

Consumer Behaviour

Encourages UBC students, faculty and staff to make sustainable choices.

² UBC Sustainability, "Who We Are".

³ UBC, *Report 2018-2019*.

⁴ Slogoski, *File_078*.

UBC & SDGs

The findings of the ASRs are situated within the framework of the United Nations' 2030 Agenda on Sustainable Development Goals (SDG). Of particular interest to the ASR's are:

Goal 11 Sustainable Cities and Communities,
Goal 12 Responsible Consumption and Production, and
Goal 13 Climate Action.⁵



In order to conform to the 2030 Agenda's expectations of waste reduction, in 2014, UBC Sustainability set **a target for the university to divert 80% of its total waste by 2020.**⁷ However, the data suggests that over the last decade, i.e. 2010-2020, UBC diverted an average of only 59.5% of its total waste, falling significantly short of its target rate of 80% waste diversion.⁸

⁵ UBC, "Report 2019-2020", 35.

⁶ United Nations, *The 17 Goals*.

⁷ UBC, "Zero Waste Action Plan".

⁸ Campus Sustainability, "Operational Sustainability Report", 28; UBC, "Report 2013-2014", 2; UBC, "Report 2015-2016", 20; UBC, "Zero Waste Action Plan", 48; UBC, "Report 2016-2017", 40; UBC, "Report 2017-2018", 41; UBC, "Report 2018-2019", 26; UBC, "Report 2019-2020", 39.

UBC & Waste Reduction



On UBC Vancouver's Point Grey campus, the waste reduction approach is centered around continuously updating the "infrastructure and operational processes, the commitment of the campus community, and [the] collaboration with sustainable industry partners and government policymakers"¹⁰.

This is evidenced by five waste reduction programs including laboratory waste, construction waste, food waste, and residence life waste at UBC.

⁹ Slogoski, *File_000*.

¹⁰ UBC, "Report 2019-2020".

UBC's Waste Reduction Programs

1

Green Labs: recycles various laboratory materials to minimize the environmental impact of waste generated during research activities.¹¹

2

Green Building: runs in conjunction with a construction waste tracking system to divert construction waste – in 2014-2015 alone the program diverted 94% of UBC's construction waste.¹²

3

Zero Waste Action Plan: installs multi-stream recycling stations in non-residential areas on campus, and implements waste reduction-related policies and initiatives, such as the Zero Waste Squad, the Zero Waste Foodware Strategy, and Green2Go, to divert waste.¹³



Sort it Out.

UBC sustainability

4

Mindful Move Out: an initiative managed by UBC's Student Housing and Hospitality Services (SHHS), and provides guidelines and support for current UBC residents to practice sustainable approaches to waste management and disposal when moving out of student residence.¹⁵

5

Move In Market: a pilot project introduced by Campus and Community Planning (C+CP) in 2018-2019 at Walter Gage, a student residence on campus. This program seeks to implement a residential waste reuse model in student residences at UBC, however, due to the COVID-19 pandemic, this program has been suspended until further notice.¹⁶

¹¹ UBC, "Report 2019-2020", 22.

¹² UBC, "Report 2014-2015", 20.

¹³ UBC, "Report 2016-2017, 26; UBC, "Zero Waste Action Plan".

¹⁴ UBC Sustainability, *Text-based Sorting Guide*.

¹⁵ UBC, "Mindful Move Out".

¹⁶ Kirk, "Mindful Move Out"; U/pinkish_fish, "Move in Market".

Challenges & Solutions

With a variety of promising programs in place, the question remains, **why was UBC unable to achieve its target of diverting 80% of its total waste by 2020?** What challenges does UBC face in its progress toward sustainable waste diversion and disposal?



Three Challenges

The data presented in the ASRs from 2010 to 2020 indicates three main challenges to successfully diverting waste at UBC.

First, the **challenge of the demands of growth.**

“As UBC grows, assuming its current growth trends, so would waste generation and disposal.”¹⁸



¹⁸ UBC, “Zero Waste Action Plan”, 13.

¹⁹ Slogoski, *File_086*.

First Challenge

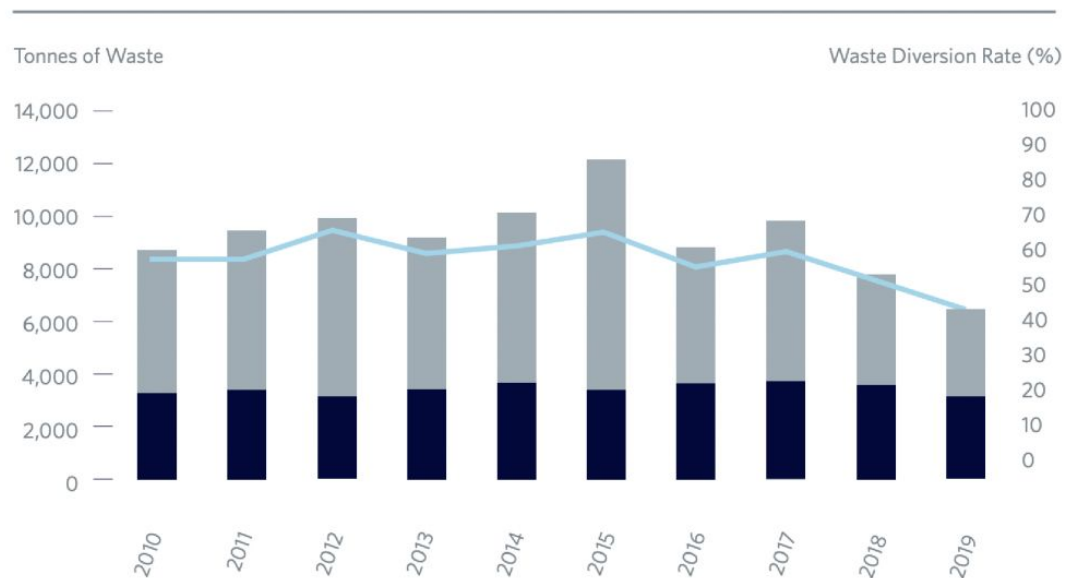
According to UBC officials, the projected targets for waste diversion could not be achieved within the proposed time frame due to the continuous growth and expansion of UBC in terms of both **student population** and **infrastructure**.²⁰

Over the last decade, the student population on UBC Vancouver's Point Grey campus increased by a whopping **23.2%**, i.e. from 47,450 undergraduate and graduate students in 2010 to 58,462 students in 2020.²¹ As a result, **the rate of annual waste disposed of since 2010 stands at 7%**, amounting to a total of 3,581 tonnes in 2019-2020 alone.²²

WASTE DIVERSION AND DISPOSAL

Vancouver Campus

- Operational Waste Sent to Landfill (tonnes)
- Waste Diverted (tonnes)
- Overall Waste Diversion Rate (%)



This places additional pressure on facilities both on and off campus to process waste.²⁴

²⁰ UBC, "Zero Waste Action Plan", 33.

²¹ UBC, "Zero Waste Action Plan"; Planning & Institutional Research, "Enrolments".

²² UBC, "Report 2019-2020".

²³ UBC, *Waste Diversion and Disposal*.

²⁴ UBC, "Zero Waste Action Plan".

First Solution

While we recognize the growth imperative for an academic institution like UBC, we think this growth needs to proceed more sustainably. Hence, we propose a solution in line with **Goal 11** (Sustainable Cities and Communities) of the 2030 SDG Agenda: to consider **retrofitting** existing buildings before constructing new ones, and ensuring that the newly constructed buildings are built with the **Leadership in Energy and Environmental Design (LEED)** green building system in mind. As an internationally recognized third-party certification program, the LEED approach ensures that new buildings constructed on UBC operate in a way that uses natural resources sustainably and efficiently.²⁵



²⁵ UBC Sustainability, "LEED at UBC".

²⁶ UBC, *UBC Ponderosa Commons Certified LEED Gold*.

Second Challenge

Second, the challenge of **reducing the amount of waste generated in UBC student residences**. The expansion of UBC's student body leads to the construction of new student accommodations, which drives up the amount of total waste generated in residence. Data illustrating the difficulty of tracking, collecting, and sorting residential items, such as mini-fridges, utensils, hangers, and food waste from various housing complexes at UBC further exacerbate this challenge of reducing waste in residence.²⁷



²⁷ UBC, "Zero Waste Action Plan".

²⁸ Slogoski, *File_124*.

Second Challenge (continued)

Disposing large amounts of residential waste, including food waste, contributes significantly to a rise in greenhouse gas emissions.

This hinders progress toward Climate Action, **Goal 13** of the 2030 SDG Agenda. UBC made a public commitment to this goal when it declared a Climate Emergency in 2019. To follow through on this goal and to maintain UBC's global reputation as an institution championing sustainability, UBC needs to bolster its strategies for reducing waste and mitigate the impacts of such high volumes of waste generation.²⁹



²⁹ United Nations, "#Envision2030 Goal 13".

³⁰ Slogoski, *File_046*.

Second Solution

MOVE IN MARKET OUR SICKEST DEALS

iClickers: \$15
Printers: \$15
Laundry baskets: \$3
Mirrors: \$15
Kitchen appliances: \$4
Desk chairs: \$10

Appliances: blender, rice cookers, kettles, toasters, panini press, etc.

**WHILE SUPPLIES LAST
WE ONLY ACCEPT CASH**

MOVE IN MARKET ITEMS FOR SALE

| | |
|-------------------|----------------------|
| Hangers | Baking pans & dishes |
| Containers | Water bottles |
| Mugs | Appliances |
| Plates | House organization |
| Bowls | Some electronics |
| Pots | Blow dryers |
| Pans | |
| Cups/Glasses/Mugs | |
| Cutting boards | |
| Mixing bowls | |
| Cutlery | |
| Cutlery tray | |
| Dish racks | |

WHILE SUPPLIES LASTS

**AKA COME EARLY
OPENS 7PM MOVE IN DAY**

MOVE IN MARKET = MAD DEALS

At IKEA:



\$4.99-29.99



\$0.99-3.99



\$0.79-2.99

Our PRICE:



\$4



\$0.50



\$0.50

P.S. we don't charge tax!!!

We advocate for the **resumption and expansion of the residential reuse model** implemented in the Move In Market program piloted at Walter Gage, in partnership with UBC Sustainability Ambassadors from the Circular Economies in Action project, Campus and Community Planning, and Student Housing and Hospitality Services (SHHS).



This three-pronged collaboration will be critical for implementing structural changes that effectively reduce and divert residential waste.

³¹ U/pinkish_fish, Move in Market.

³² @sustainUBC, UBC Sustainability.

³³ @campusubc, UBC Campus and Community Planning.

³⁴ UBC, UBC Student Housing and Hospitality Services.

Third Challenge

Third, the challenge of **limited awareness**. A central barrier to the success of waste reduction and diversion programs is the lack of awareness.

After launching the Move In Market pilot program, Campus and Community Planning identified the...

“Lack of awareness surrounding the initiative”³⁵

...as the biggest barrier to their success. Their findings revealed that of the target student resident population, **less than 50%** were aware of donation bins in their residence, and **more than 90%** did not visit the Mindful Move Out program’s webpage.³⁶



³⁵ Kirk, “Mindful Move Out”, 3.

³⁶ Ibid.

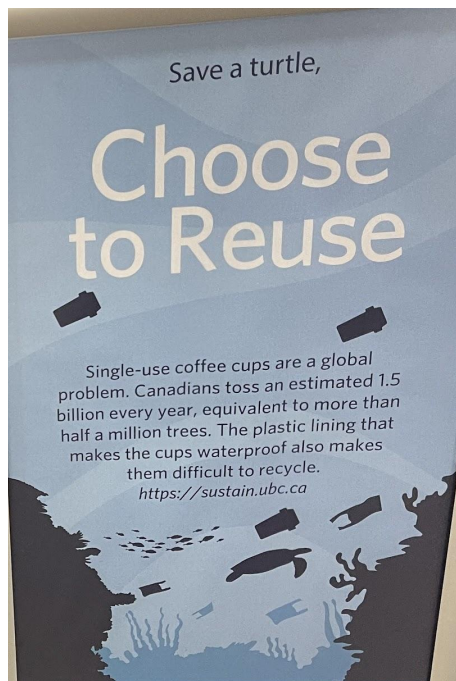
³⁷ UBC, *Mindful Move Out*.

Third Solution

This challenge reveals that the solution to this challenge lies in recognizing the importance of **human behaviour**. However, as the data suggests, UBC largely depends on “literacy inside and outside the region”³⁸, i.e. factors external to the actual campus community, to inform UBC-affiliated individuals’ consumption and waste disposal behaviours.

To correct this misalignment, we recommend the launch of an **educational campaign promoting a culture of reuse at UBC**, which is in accordance with **Goal 12** of the 2030 SDG Agenda (Responsible Consumption and Production).³⁹ By focusing on building awareness inside UBC, the campaign will increase student, faculty, and staff awareness of UBC’s waste management practices as well as the impact on the campus environment and community.

As a result, it encourages engagement with waste reduction practices in UBC residences.



³⁸ UBC, “Zero Waste Action Plan”.

³⁹ UBC Sustainability, “Campaigns”; UBC, “Let’s Choose to Reuse”.

⁴⁰ Slogoski, *File_104*.

⁴¹ Slogoski, *File_097*.

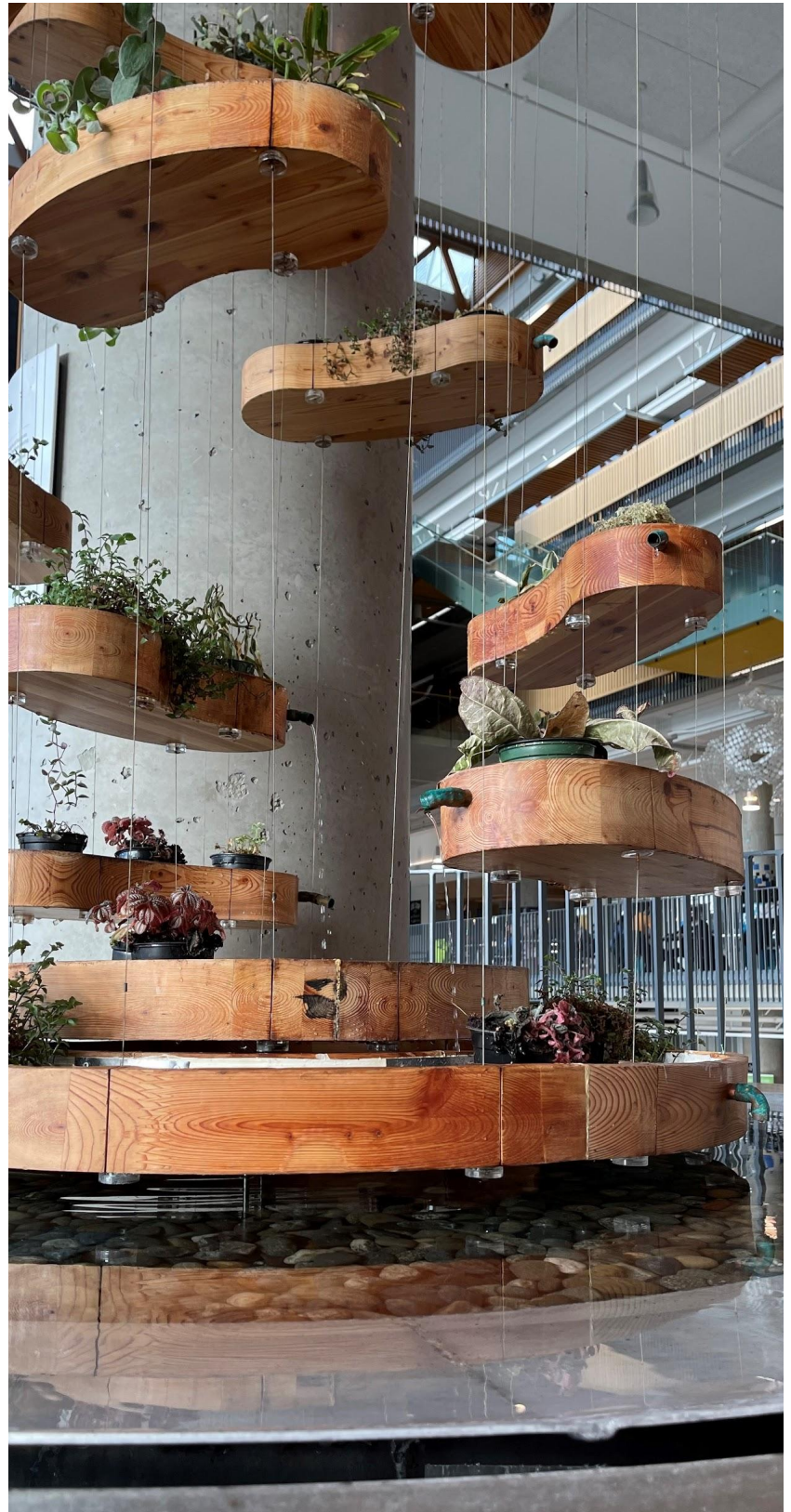
⁴² UBC, *UBC Zero Waste Foodware Strategy*.

Conclusion

While UBC Sustainability has implemented a range of programs covering various areas of university life, the population growth at UBC strains existing sustainability practices. This explains the failure to fulfil the campus-wide goal of waste diversion over the past fifteen years.

Such growth illustrates a need for more innovation and waste diversion programs for UBC to meet the campus-wide goal of zero waste. This includes an expansion of programs in student housing and educating the UBC community.

The success of UBC Sustainability in diverting over 50% of total campus waste since 2005 demonstrates that current strategies are working and making great progress. However, future waste management policies need to reflect a UBC that is constantly changing and growing.



Bibliography

@campusubc. *UBC Campus and Community Planning*. n.d.. Picture. Twitter.

<https://twitter.com/campusubc>.

Kirk, Carissa. *Mindful Move Out Reuse Pilot - Stage Two Report*. Vancouver, BC: The University of British Columbia, 2019.

PerryPlanet. *Clock Tower, UBC Campus*. 17 June, 2010. Photograph. Vancouver, Canada. https://en.wikivoyage.org/wiki/File:Vancouver_ubc_clock.jpg.

Planning & Institutional Research. *Enrolments by Campus/Faculty/Program*. University of British Columbia, 2021.

Slogoski, Felicia. *File_000*. February 17, 2021. Photograph. Vancouver, Canada.

_____. *File_006*. February 17, 2021. Photograph. Vancouver, Canada.

_____. *File_046*. February 17, 2021. Photograph. Vancouver, Canada.

_____. *File_078*. February 17, 2021. Photograph. Vancouver, Canada.

_____. *File_086*. February 17, 2021. Photograph. Vancouver, Canada.

_____. *File_097*. February 17, 2021. Photograph. Vancouver, Canada.

_____. *File_104*. February 17, 2021. Photograph. Vancouver, Canada.

_____. *File_117*. February 17, 2021. Photograph. Vancouver, Canada.

_____. *File_124*. February 17, 2021. Photograph. Vancouver, Canada.

@sustainUBC. *UBC Sustainability*. n.d.. Picture. Twitter.

<https://twitter.com/sustainubc>.

UBC Sustainability. "Campaigns." The University of British Columbia, July 16, 2020. <https://sustain.ubc.ca/get-involved/campaigns>.

_____. "LEED at UBC." The University of British Columbia, June 24, 2020. <https://sustain.ubc.ca/campus/green-buildings/leed-ubc>.

_____. "Who We Are." The University of British Columbia. Accessed February 11, 2021. <https://sustain.ubc.ca/about/who-we-are>.

Bibliography (continued)

- United Nations. “#Envision2030 Goal 13: Climate Action Enable.” United Nations. Accessed February 18, 2021. <https://www.un.org/development/desa/disabilities/envision2030-goal13.html>.
- The University of British Columbia (UBC). “Annual Sustainability Report 2013-2014”. *UBC Sustainability*, (2014): 0-48. https://sustain.ubc.ca/sites/sustain.ubc.ca/files/uploads/CampusSustainability/CS_PDFs/PlansReports/Reports/2013-2014-Annual-Sustainability-Report.pdf.
- _____. “Annual Sustainability Report 2014-2015”. *UBC Sustainability*, (2015): 1-40. https://sustain.ubc.ca/sites/sustain.ubc.ca/files/uploads/CampusSustainability/CS_PDFs/PlansReports/Reports/2014-2015-Annual-Sustainability-Report-LoRes.pdf.
- _____. “Annual Sustainability Report 2015-2016”. *UBC Sustainability*, (2016): 1-56. <https://sustain.ubc.ca/sites/default/files/2015-16%20Annual%20Sustainability%20Report.pdf>.
- _____. “Annual Sustainability Report 2016-2017”. *UBC Sustainability*, (2017): 0-23. <https://sustain.ubc.ca/sites/default/files/Annual%20Sustainability%20Report%20-%20January%202018.pdf>.
- _____. “Annual Sustainability Report 2017-2018”. *UBC Sustainability*, (2018): 1-48. <https://sustain.ubc.ca/sites/default/files/files/ASR-2017-2018-2.pdf>.
- _____. “Annual Sustainability Report 2018-2019”. *UBC Sustainability* (2019): 1-40. <https://sustain.ubc.ca/sites/default/files/files/18-19-Annual-Sustainability-Report.pdf>.
- _____. *Annual Sustainability Report 2019-2020*. 2020. Screenshot. Vancouver, Canada. https://sustain.ubc.ca/sites/default/files/2019-20ASR_201019.pdf.
- _____. “Annual Sustainability Report 2019-2020”. *UBC Sustainability* (2020): 1-40. https://sustain.ubc.ca/sites/default/files/2019-20ASR_201019.pdf.

Bibliography (continued)

- _____. "Let's Choose to Reuse." UBC Campus & Community Planning, The University of British Columbia, January 21, 2020. <https://planning.ubc.ca/news/lets-choose-reuse>.
- _____. *Mindful Move Out*. n.d.. Picture. <https://vancouver.housing.ubc.ca/residence-life/moving-out/>.
- _____. "Mindful Move Out." Student Housing UBC. The University of British Columbia. Accessed February 18, 2021. <https://vancouver.housing.ubc.ca/residence-life/moving-out/>.
- _____. *UBC Student Housing and Hospitality Services*. n.d.. Screenshot. <https://www.go2hr.ca/companies/ubc-student-housing-and-hospitality-services>.
- _____. *UBC Ponderosa Commons Certified LEED Gold*. Photograph. September 27, 2017. <https://infrastructuredevelopment.ubc.ca/2017/09/27/ubc-ponderosa-commons-certified-leed-gold/>.
- _____. "UBC Vancouver Campus Zero Waste Action Plan", October 3, 2014: 0-34. [https://planning.ubc.ca/sites/default/files/2020-01/PLAN UBC Zero Waste Action Plan%202014%2010%2003%20final.pdf](https://planning.ubc.ca/sites/default/files/2020-01/PLAN%20UBC%20Zero%20Waste%20Action%20Plan%202014%2010%2003%20final.pdf).
- _____. *UBC Zero Waste Foodware Strategy*. n.d.. Infographic. <https://www.ams.ubc.ca/stories/lets-choose-to-reuse/>.
- _____. *Waste Diversion and Disposal*. Screenshot. 2020. https://sustain.ubc.ca/sites/default/files/2019-20ASR_201019.pdf.
- U/pinkish_fish. *Move in Market @ Walter Gage Residence*. 2020. Screenshot. https://www.reddit.com/r/ZeroWaste/comments/cwo7jt/move_in_market_walter_gage_residence/.
- _____. "Move in Market @ Walter Gage Residence." Reddit, 2020. https://www.reddit.com/r/ZeroWaste/comments/cwo7jt/move_in_market_walter_gage_residence/.



¹ PerryPlanet, Clock Tower.