

# Calculating Food Emissions

and Progressive  
Change at the  
University of Victoria,  
Canada

Holly Cecil, MA

Animals & Society Research Initiative,  
University of Victoria

Email: [cecil@uvic.ca](mailto:cecil@uvic.ca)





**UVIC**

**University of Victoria**

Student Population:  
~22,000

# University of Victoria



University of Victoria Food Services

A-Z | Directories | Maps

Search Food Services

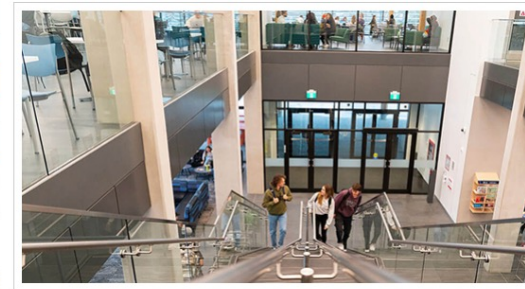
Home | Hours & locations | Meal plans | Nutrition | Sustainability | Degrees Catering | UVic Meal Share Program | About us

- Arts Place
- BiblioCafé
- Mac's
- Mystic Market
- The Cove
- Nibbles & Bytes Café
- SciCafé
- Feedback
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home » hours & locations » the cove

## The Cove



Built with one of the largest [Passive House](#) kitchens in North America, this brand new carbon neutral dining facility features a 700 person seating capacity across two levels with an open concept, food court.

Ten food kiosks include:

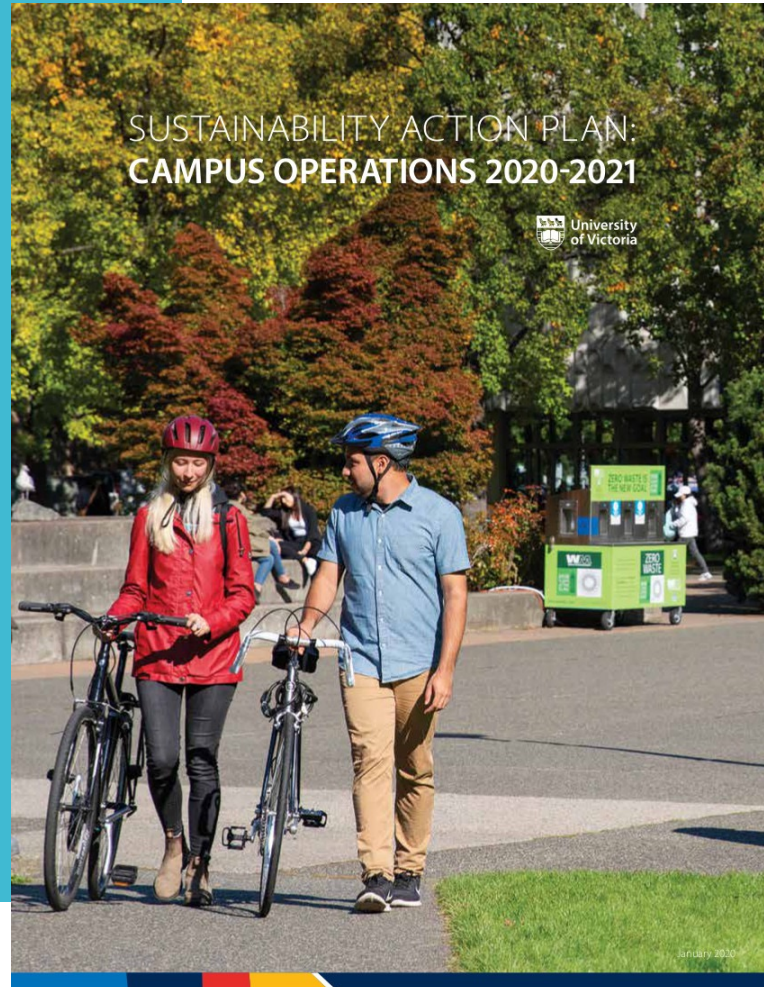
- Port Cafe & Espresso Bar (locally roasted coffee + baked goods)
- Cove Express (grab & go, packaged items, sushi, drinks)
- Made-to-Order Sandwiches & Wraps
- Greens (plant based offerings)
- Shawarma
- Stir Fry Bar
- Hot Entrees & Carvery (rotating 3 week menu)
- Hot Grill
- Pizza

## Kiosk Menus

### Dietary Legend

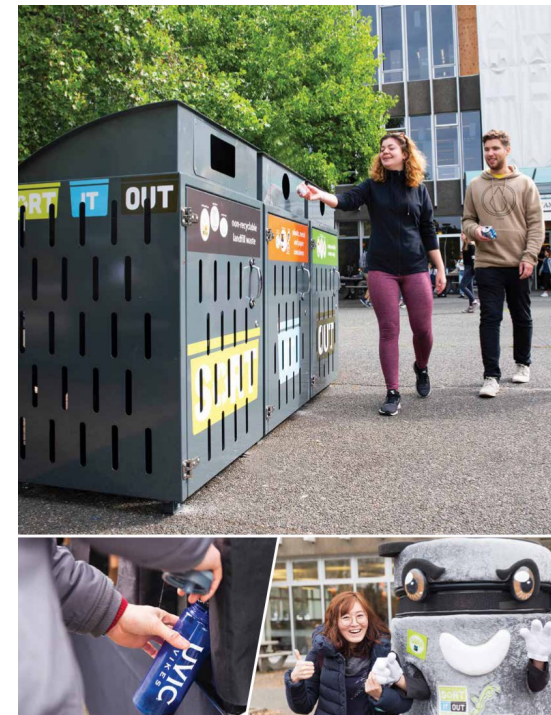
- Vegan (all vegan items are vegetarian & dairy free by default)
- Vegetarian
- Halal Meat
- Made without gluten
- Made without dairy

# University of Victoria



University of Victoria

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## GHG Reporting

- Scope 1: Direct Emissions
- Scope 2: Indirect Emissions (Electricity)
- Scope 3: Upstream/Downstream emissions including food, employee travel...

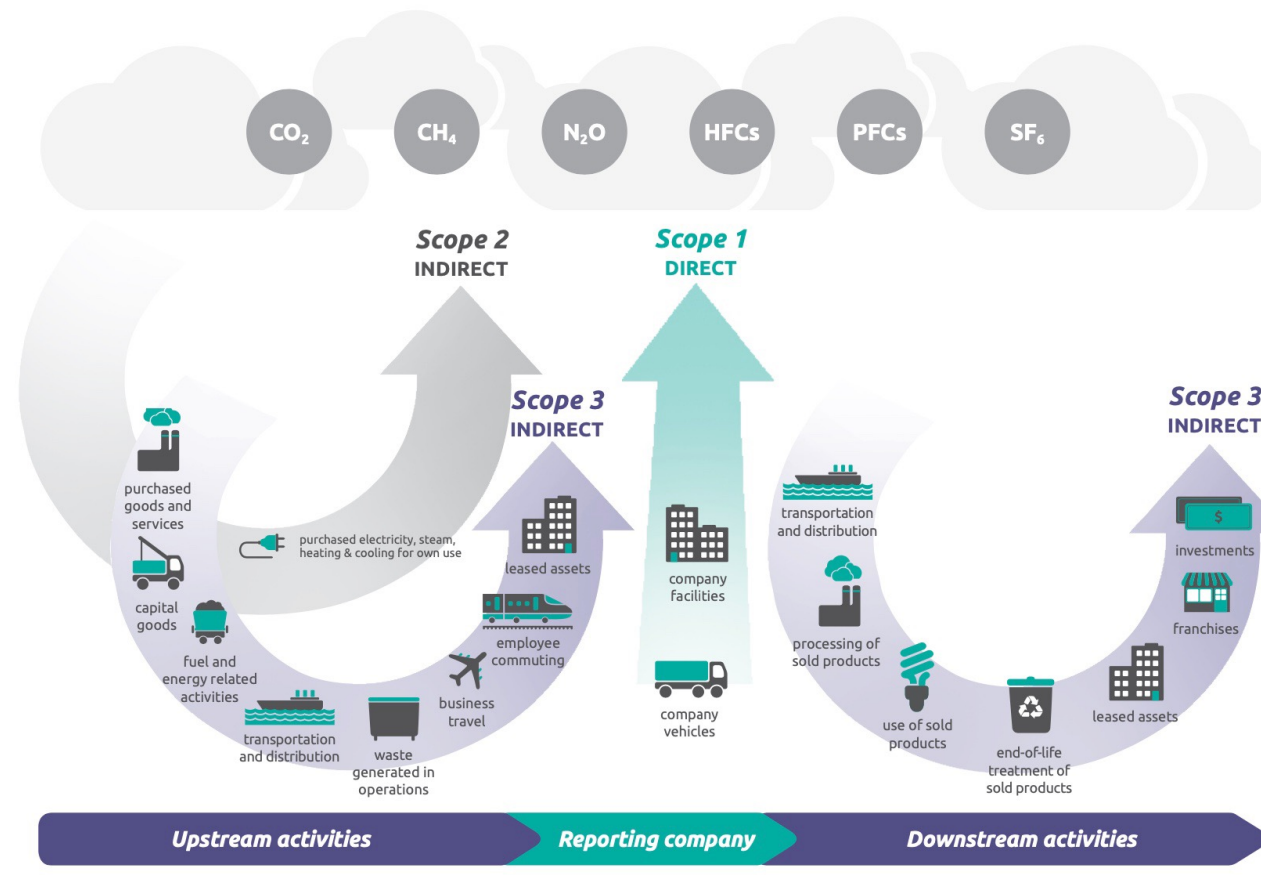


Image Source: World Resources Institute, "Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard," 2011

UVic Food Emissions  
Calculations

Campus Planning and  
Sustainability

[oac.uvic.ca/defaultveg](http://oac.uvic.ca/defaultveg)



DEFAULTVEG



Sustainability in action.



University  
of Victoria  
Campus Planning  
& Sustainability

**The Default Veg Initiative:**

# Measuring and Reducing Food Emissions at the University of Victoria

**December 16, 2021**



# UVic Food Emissions Calculations

## Campus Planning and Sustainability

### Default Veg Greener by Default

### UVic also partners with Forward Food

[oac.uvic.ca/defaultveg](https://oac.uvic.ca/defaultveg)



Greener by Default at UVic - Universities Shifting Diets - Benefits - Resources - In the News - Contact

#### GREENER BY DEFAULT AT UVIC



Visit us on [Instagram](#).

The Greener by Default initiative proposes the University of Victoria serves >60% plant-based meals by December 2022, as a solution to reduce food systems emissions for climate change, and benefit campus and environmental health.



#### GREENER BY DEFAULT

Greener by Default is the institutional policy arm of DefaultVeg, working with corporations, universities, and municipalities to make plant-based meals the default in catered meetings, conferences, cafes, and cafeterias.

[VIEW WEBSITE](#)

Greener by Default is simple: Make plant-based food the default and give people the choice to opt in for meals with animal products. Part of a broad international initiative shared across universities, institutions, and individuals, Greener by Default is inclusive, reduces your carbon footprint, and increases the healthfulness of your meals.

Under the [Default Veg](#) partner banner, our initiative was chosen as [2nd place of 20 initiatives](#) in UVic's [Climate Solutions Challenge 2021](#):

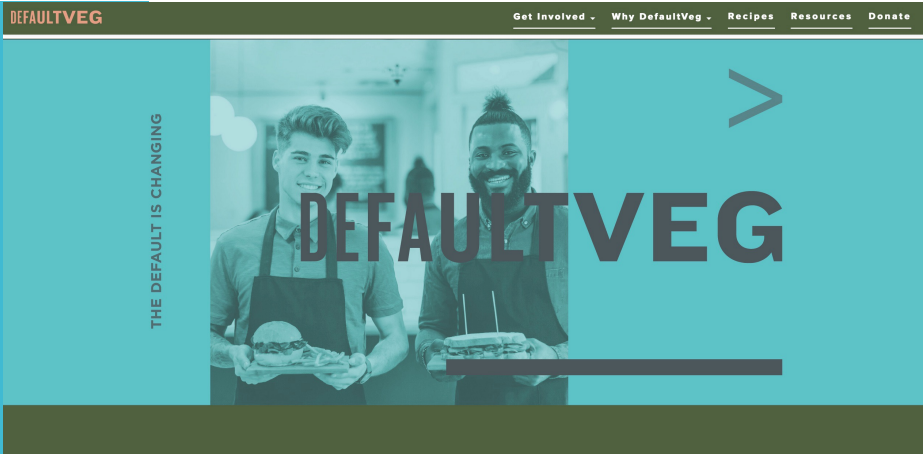


# Climate-Friendly Food Initiatives

Default Veg  
Greener by Default

UVic also partners with  
Forward Food

[oac.uvic.ca/defaultveg](http://oac.uvic.ca/defaultveg)

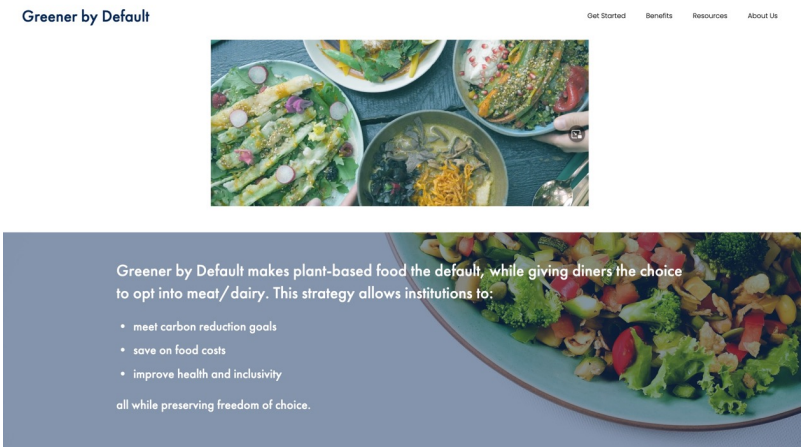


## Default Veg

Cool Food Movement –  
World Resources Institute



A quarter of all greenhouse gas emissions come from food production. By simply changing what we eat, we can make a difference to our climate. Cool Food helps people and organizations reduce the climate impact of their food through shifting towards more plant-rich diets. Climate action has never been so delicious. Cool Food is an initiative of the World Resources Institute.



## Greener by Default

Forward Food (Humane Society)

Recipe database Offerings News Contact us About

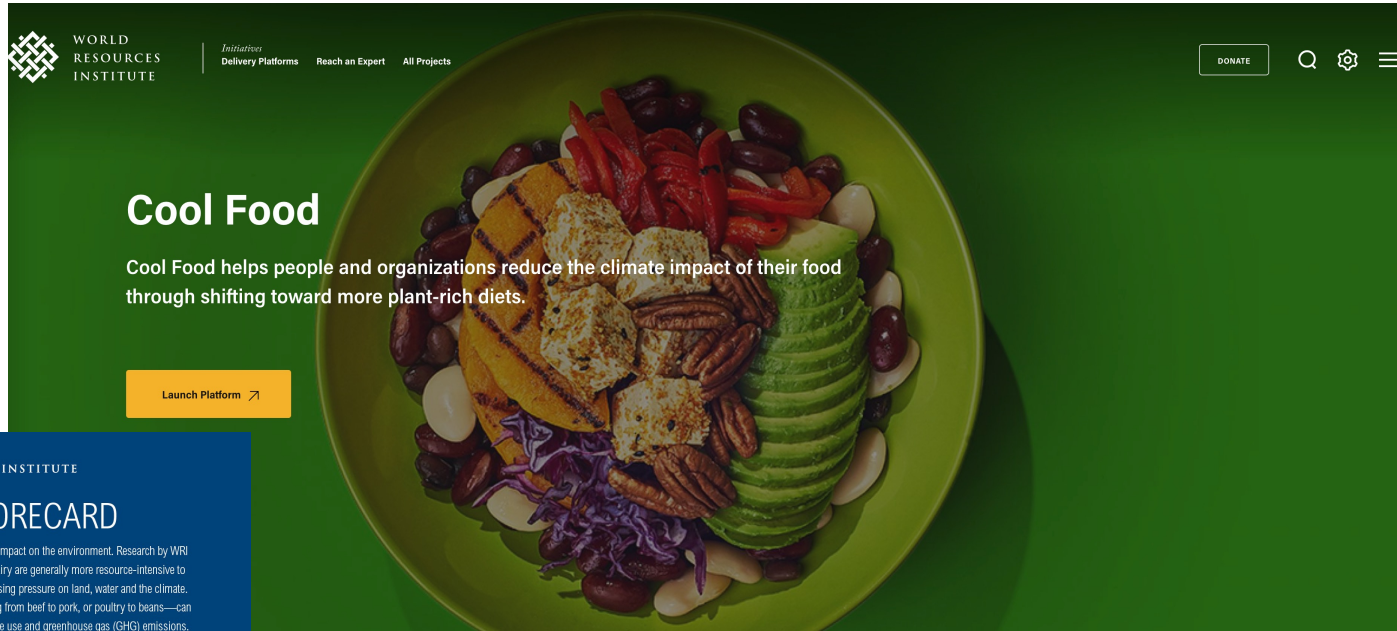




World Resources Institute

Cool Food Calculator

[coolfood.org/pledge](https://coolfood.org/pledge)



WORLD RESOURCES INSTITUTE

### PROTEIN SCORECARD

What you put on your plate has a large impact on the environment. Research by WRI and its partners shows that meat and dairy are generally more resource-intensive to produce than plant-based foods, increasing pressure on land, water and the climate. Small dietary shifts—such as switching from beef to pork, or poultry to beans—can significantly reduce agricultural resource use and greenhouse gas (GHG) emissions. Use this scorecard to lower your diet's impacts in a way that works for you.

Read more at [wri.org/shiftingdiets](https://wri.org/shiftingdiets) join the conversation [#ShiftingDiets](https://twitter.com/ShiftingDiets)

	FOOD	IMPACT (GHG emissions per gram of protein)	COST (Retail price per gram of protein)
LOW	Wheat		\$
	Corn		\$
	Beans, chickpeas, lentils		\$
	Rice		\$
	Fish		\$\$\$
	Soy		\$
	Nuts		\$\$\$
MEDIUM	Eggs		\$\$
	Poultry		\$\$
	Pork		\$\$
HIGH	Dairy (milk, cheese)		\$\$
	Beef		\$\$\$
	Lamb & goat		\$\$\$

Lighter shade shows emissions from agricultural production, darker shade shows emissions from land-use change.

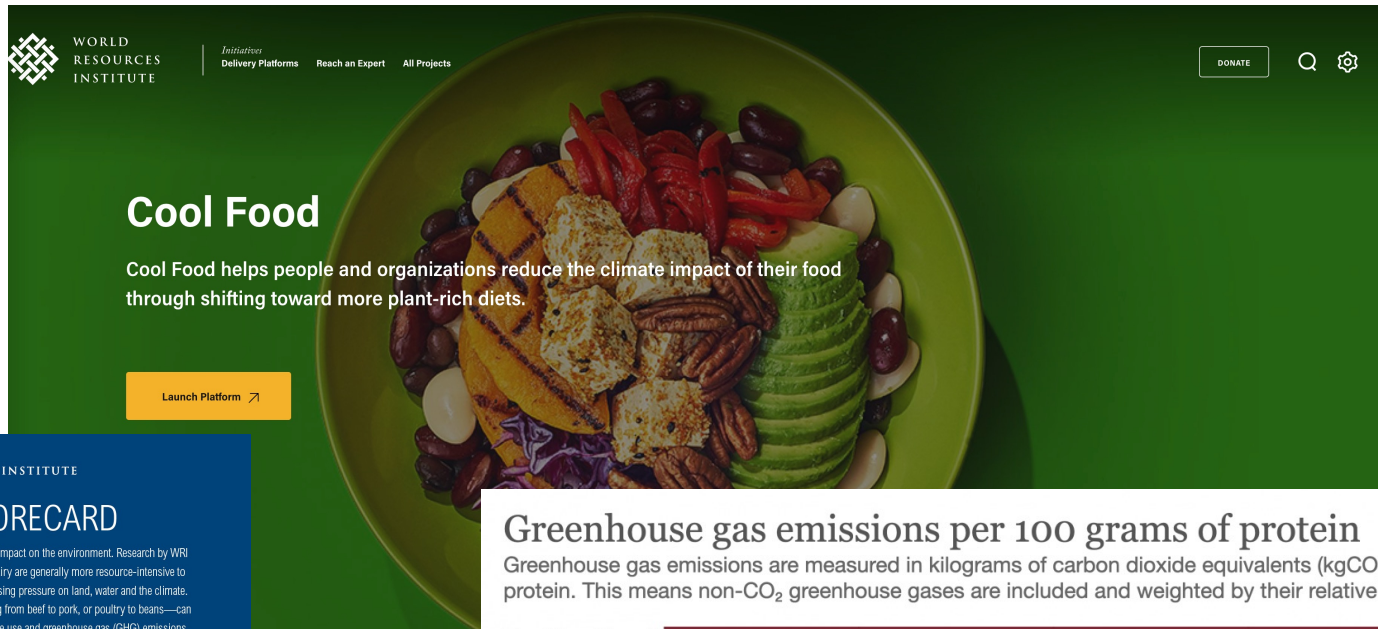


Sources: GlobAgri-WRR model developed by CIRAD, Princeton University, INRA, and WRI (GHG data); USDA and BLS (2016) (US retail price data). Notes: see [www.wri.org/proteinscorecard](https://www.wri.org/proteinscorecard).

World Resources Institute

Cool Food Calculator

[coolfood.org/pledge](https://coolfood.org/pledge)



WORLD RESOURCES INSTITUTE

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	FOOD	IMPACT (GHG emissions per gram of protein)	COST (Retail price per gram of protein)
LOW	Wheat	[Light Green]	\$
	Corn	[Light Green]	\$
	Beans, chickpeas, lentils	[Light Green]	\$
	Rice	[Light Green]	\$
	Fish	[Light Green]	\$\$\$
	Soy	[Light Green]	\$
	Nuts	[Light Green]	\$\$\$
	Eggs	[Light Green]	\$\$
MEDIUM	Poultry	[Orange]	\$\$
	Pork	[Orange]	\$\$
	Dairy (milk, cheese)	[Orange]	\$\$
HIGH	Beef	[Dark Red]	\$\$\$
	Lamb & goat	[Dark Red]	\$\$\$

Lighter shade shows emissions from agricultural production, darker shade shows emissions from land-use change.

#### How Much Protein Do You Need?

The average daily adult protein requirement is 56g for a man and 46g for a woman but many people consume much more than they need.

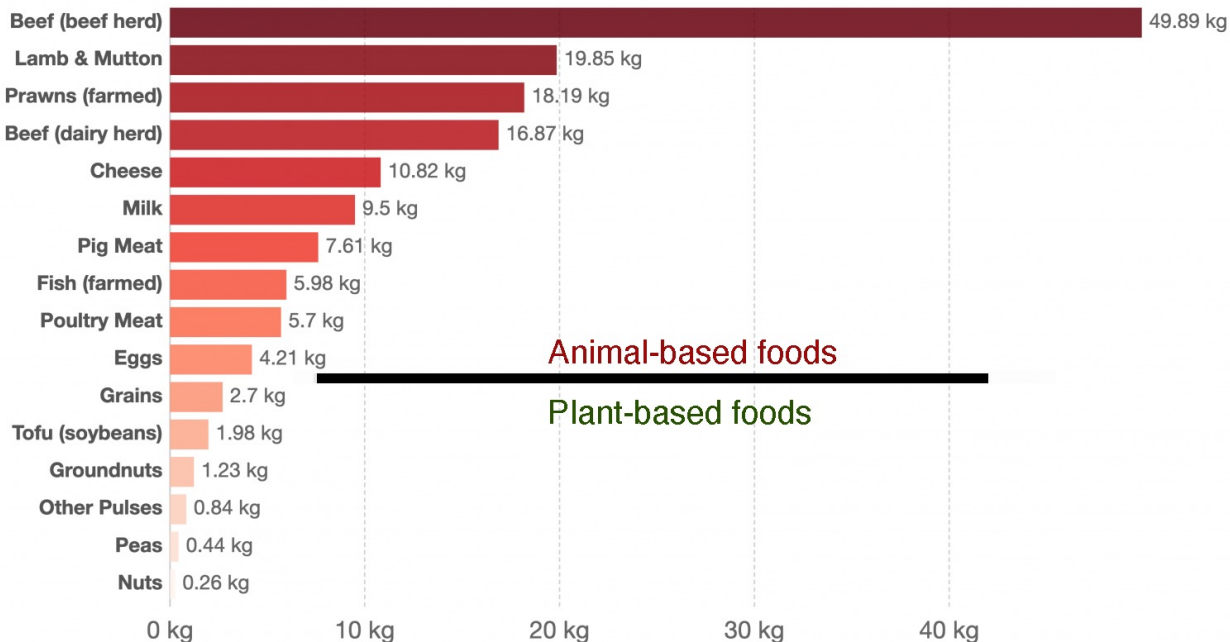


Sources: GlobAgri-WRR model developed by CIRAD, Princeton University, INRA, and WRI (GHG data); USDA and BLS (2016) (US retail price data). Notes: see [www.wri.org/proteinscorecard](https://www.wri.org/proteinscorecard).

### Greenhouse gas emissions per 100 grams of protein

Greenhouse gas emissions are measured in kilograms of carbon dioxide equivalents (kgCO<sub>2</sub>eq) per 100 grams of protein. This means non-CO<sub>2</sub> greenhouse gases are included and weighted by their relative warming impact.

Our World in Data



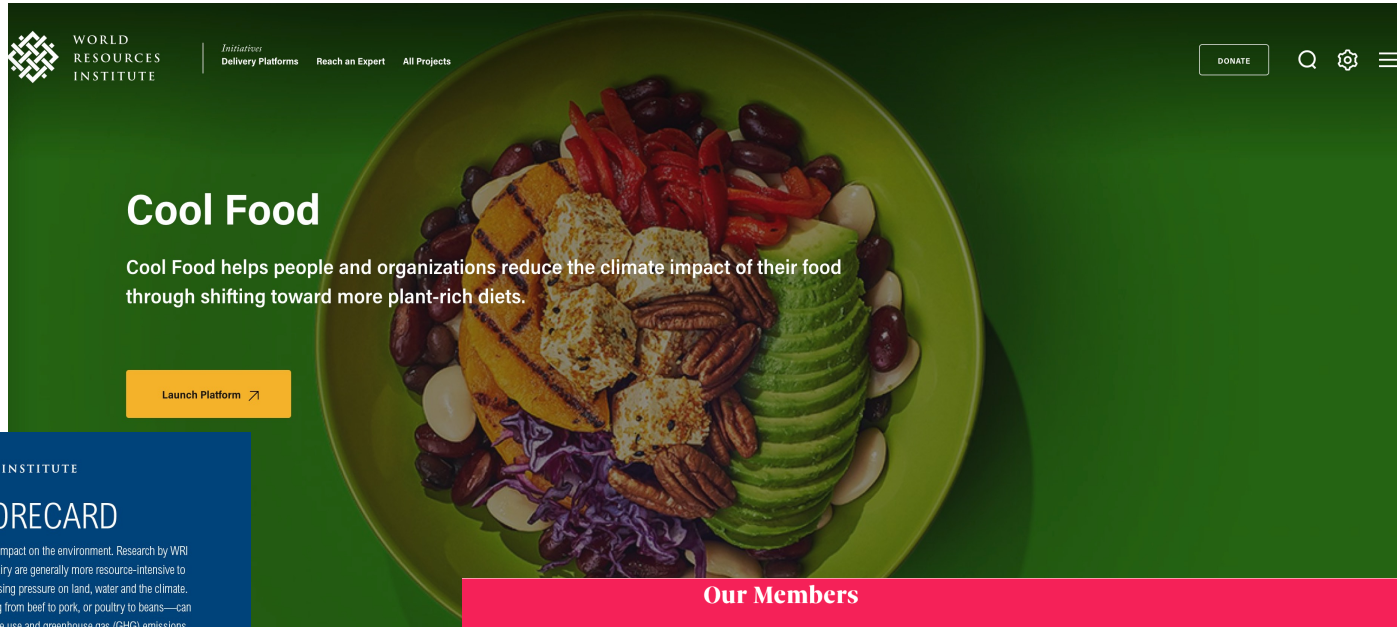
Source: Poore, J., & Nemecek, T. (2018). Additional calculations by Our World in Data.

Note: Data represents the global average greenhouse gas emissions of food products based on a large meta-analysis of food production covering 38,700 commercially viable farms in 119 countries. OurWorldInData.org/environmental-impacts-of-food • CC BY

World Resources Institute

Cool Food Calculator

[coolfood.org/pledge](https://coolfood.org/pledge)



WORLD RESOURCES INSTITUTE

## PROTEIN SCORECARD

What you put on your plate has a large impact on the environment. Research by WRI and its partners shows that meat and dairy are generally more resource-intensive to produce than plant-based foods, increasing pressure on land, water and the climate. Small dietary shifts—such as switching from beef to pork, or poultry to beans—can significantly reduce agricultural resource use and greenhouse gas (GHG) emissions. Use this scorecard to lower your diet's impacts in a way that works for you.

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Join the conversation [#ShiftingDiets](https://twitter.com/ShiftingDiets)

	FOOD	IMPACT (GHG emissions per gram of protein)	CDST (Retail price per gram of protein)
LOW	Wheat	<div style="width: 10%;"></div>	\$
	Corn	<div style="width: 10%;"></div>	\$
	Beans, chickpeas, lentils	<div style="width: 10%;"></div>	\$
	Rice	<div style="width: 10%;"></div>	\$
	Fish	<div style="width: 10%;"></div>	\$\$\$
	Soy	<div style="width: 10%;"></div>	\$
	Nuts	<div style="width: 10%;"></div>	\$\$\$
MEDIUM	Eggs	<div style="width: 10%;"></div>	\$\$
	Poultry	<div style="width: 20%;"></div>	\$\$
	Pork	<div style="width: 20%;"></div>	\$\$
HIGH	Dairy (milk, cheese)	<div style="width: 30%;"></div>	\$\$
	Beef	<div style="width: 40%;"></div>	\$\$\$
	Lamb & goat	<div style="width: 40%;"></div>	\$\$\$

Lighter shade shows emissions from agricultural production, darker shade shows emissions from land-use change.

### How Much Protein Do You Need?

The average daily adult protein requirement is **56g** for a man and **46g** for a woman but many people consume much more than they need.



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## Our Members

### A

Aramark

### B

Bank of America  
BASF  
Beth Israel Deaconess Medical Center  
Bloomberg  
Boston Medical Center  
Brandeis University  
Brigham and Women's Hospital  
Brigham and Women's Faulkner Hospital

### C

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City of Copenhagen  
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Concord Hospital

### D

Dartmouth-Hitchcock Medical Center

### F

Farmers Restaurant Group  
Froedtert Hospital

### G

Genentech  
General Hospital of Syros

### H

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Harvard University  
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IKEA  
Indiana University Health  
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### M

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Memorial Sloan Kettering Cancer Center  
Montefiore Health System  
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Mount Sinai Health System

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Nestlé  
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New York University

### O

Overlook Medical Center

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PeaceHealth Southwest Medical Center  
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RobinFood

### S

Seattle Children's Hospital  
Spectrum Health Medical Center  
Sussex Community NHS Foundation Trust

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### U

UC Davis Medical Center  
UCLA Health  
UC San Diego Health  
UCSF Health  
University of Maryland  
University of Pittsburgh  
University of Pittsburgh Medical Center  
University of Vermont Medical Center  
UT Austin  
UW Health

### V

Virginia Mason Medical Center

### W

Washington, D.C.  
Williams College  
World Bank

# University of Victoria

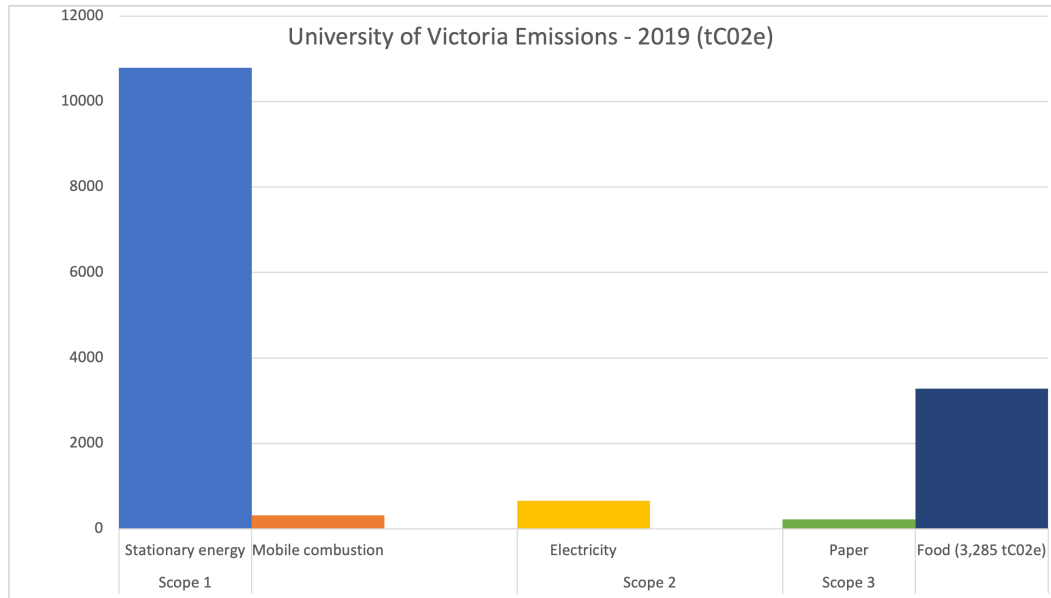
# GHG Reporting

baseline – 2019 year



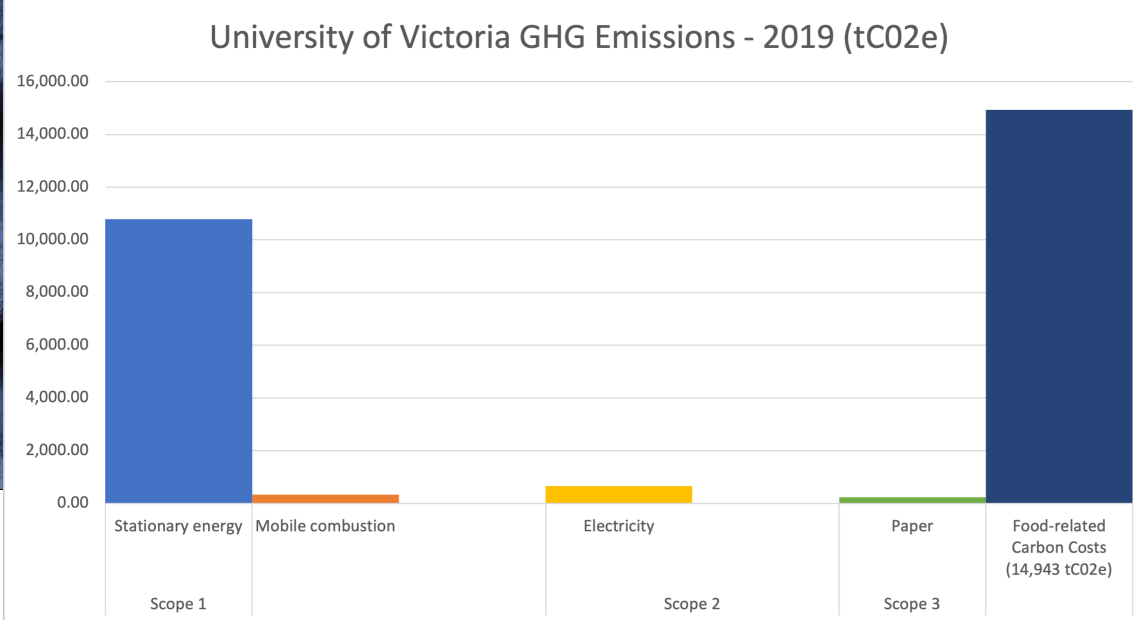
**The Default Veg Initiative:**  
**Measuring and Reducing Food Emissions at the University of Victoria**  
[Full Report - 2021](#)

**DEFAULTVEG**



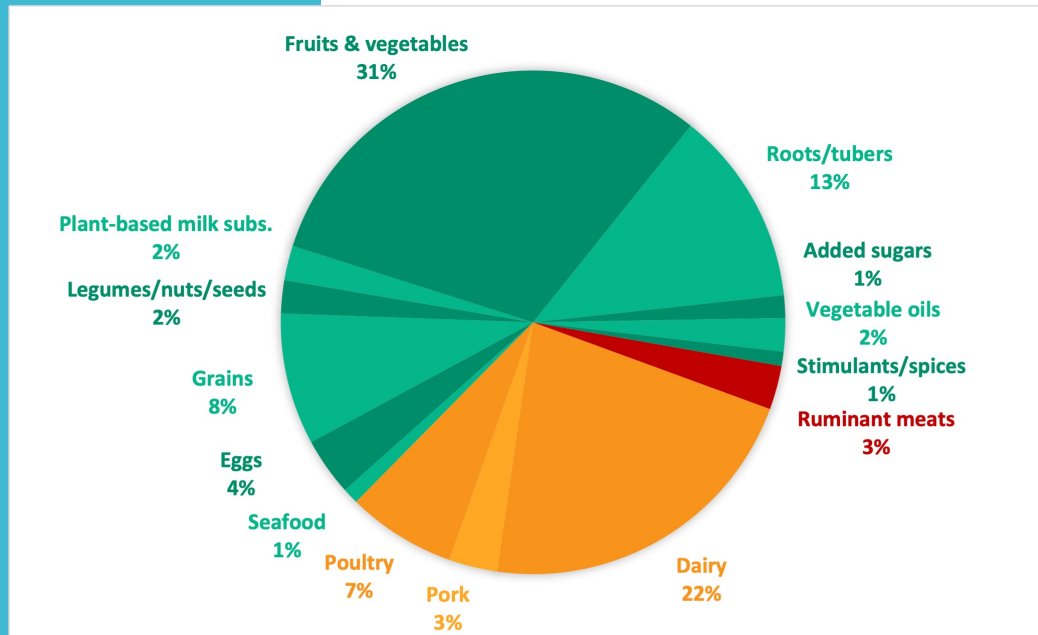
\* GHG – Supply Chain only, excludes land-use-change

Vs  
Including carbon opportunity costs

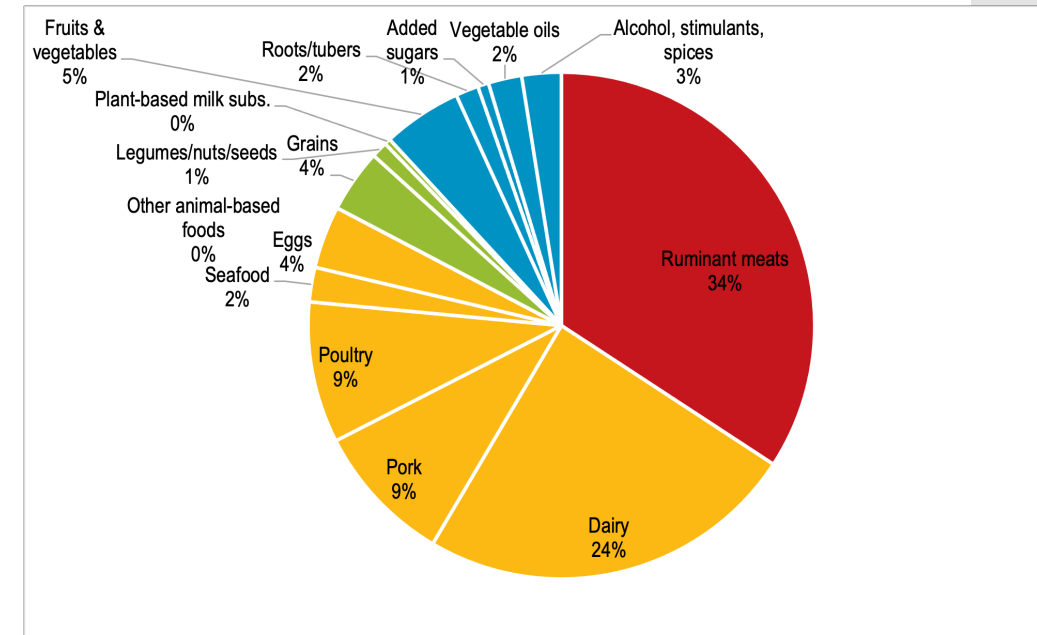




University of Victoria  
Proportions of food categories by weight/purchased (2019)



University of Victoria  
Proportions of food categories by emissions (2019)



“Ruminant meats (red) comprise only 3% of food purchases, but result in 34% of emissions. Combined with dairy, they represent almost 60% of campus emissions from food.”

# University of Victoria

## GHG Action

The screenshot shows the University of Victoria Food Services website. The header includes the university logo, navigation links (Home, Hours & locations, Meal plans, Nutrition, Sustainability, Degrees Catering, UVic Meal Share Program, About us), and a search bar. The main content area features a sidebar with links to Carbon footprint, Waste reduction, Eco box program, Local food focus, Feedback, and Contact us. The main heading is "Carbon footprint" with a breadcrumb trail "home » sustainability » carbon footprint". The text explains the university's commitment to reducing food-related greenhouse gas emissions and mentions partnerships with the Forward Food movement, Greener by Default Initiative, and Office of Campus Planning and Sustainability. A video player is embedded, titled "Sustainable features at The Cove" and "UVic: Plating Up Climate Solutions". To the right of the video are two buttons: "ONECARD ADD FUNDS" and "HOURS & LOCATIONS". Below the video, a list of menu actions taken to reduce the carbon footprint is provided.

University of Victoria | Food Services

A-Z | Directories | Maps

Search Food Services

Home | Hours & locations | Meal plans | Nutrition | Sustainability | Degrees Catering | UVic Meal Share Program | About us

Carbon footprint

Waste reduction

Eco box program

Local food focus

Feedback

Contact us

home » sustainability » carbon footprint

## Carbon footprint

Committed to the goals set out in UVic's [Climate and Sustainability Action Plan \(2030\)](#), University Food Services is aligning our menu strategies to reduce food related green house gas emissions and benefit the health of our environment and campus community.

We are an institutional partner of the [Forward Food](#) movement and have a close working relationship with the [Greener by Default Initiative](#) at UVic and the [Office of Campus Planning and Sustainability](#).

### Sustainable features at The Cove

UVic: Plating Up Climate Solutions

Watch on YouTube

#### Menu Actions Taken to Reduce our Carbon Footprint

- Prioritizing plant based proteins ([green tier](#)) listing these options first on all menus
- Reducing/replacing beef, pork, poultry, dairy ([yellow/red tier](#)) in menus by 50%
- Elimination of all lamb products from our menus ([highest carbon footprint protein](#))
- Elimination of beef chili-now serving only vegan chili at all outlets
- Introduction of the 50/50 Burger across campus (half plant protein, half beef)
- Vegan cheese used as the default cheese option (must opt in for dairy cheese)
- Whole wheat bread made as the default bread option
- Introduction of vegan mayo as the default spread (regular mayonnaise eliminated)

ONECARD ADD FUNDS

HOURS & LOCATIONS

# How Does Your Meal Rate on the Climate - Protein Scorecard?

WORLD RESOURCES INSTITUTE

## PROTEIN SCORECARD

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	Soy	█	\$
	Nuts	█	\$\$\$
	Eggs	█	\$\$
MEDIUM	Poultry	█	\$\$
	Pork	█	\$\$
	Dairy (milk, cheese)	█	\$\$
HIGH	Beef	█	\$\$\$
	Lamb & goat	█	\$\$\$

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Both bowls of chili contain ~15 grams of protein



Plant-based Chili (with beans)  
= **1.5 kg** CO<sub>2</sub>e\*

\* = Carbon Dioxide warming equivalent



Meat-based Chili (with beef)  
= **37.0 kg** CO<sub>2</sub>e\*

That's **25X** the global warming impact



University of Victoria

Campus Planning & Sustainability



Sustainability in action.



@green\_uvic



@default\_veg\_at\_uvic



### How Does Your Meal Rate on the Climate - Protein Scorecard

PROTEIN SCORECARD

Meal Type	Protein (g)	CO <sub>2</sub> e (kg)
Plant-based Chili (with beans)	15	1.5
Meat-based Chili (with beef)	15	37.0

Both bowls of chili contain ~15 grams of protein.

Plant-based Chili (with beans) = 1.5 kg CO<sub>2</sub>e

Meat-based Chili (with beef) = 37.0 kg CO<sub>2</sub>e

That's 25x more CO<sub>2</sub>e!

\* = Carbon Dioxide Warming Equivalent

University of Victoria | Campus Planning & Sustainability | Sustainability | @green\_uvic