



CITY OF
BAINBRIDGE ISLAND

Climate Change Advisory Committee Regular Meeting

Wednesday, May 21, 2025 5:30 PM
Chamber Conference Room, City Hall
280 Madison Ave N
Bainbridge Island, WA 98110

The Climate Change Advisory Committee will hold this meeting in person,
in the City Hall Council Conference Room.
Attendance may be in person or the meeting is also accessible via the Zoom meeting platform.

Click to join Zoom: <https://bainbridgewa.zoom.us/j/91390380790>

Or Telephone: 1-253-215-8782

Webinar ID: 913 9038 0790

Agenda

1. 5:30 pm Call meeting to Order/Roll Call

2. 5:35 pm Approval of Minutes – March and April

3. 5:40 pm Public Comment

In person public comment is accepted at this time on any topic of public interest. Each commenter will have three minutes, or such amount as the meeting chair determines, to speak. Public comment is not made on individual agenda items during the meeting. Public comment is simply received by the Climate Change Advisory Committee, with no response, and the Climate Change Advisory Committee cannot deliberate on items that are not on the agenda. The lack of comment is not an endorsement or a denial of the comment. Please refer to guidelines and instructions for public comment, including orderly behavior and civility in remarks, attached below.

Remote public comment is allowed with advance notice by 4:00 p.m. on the business day before the meeting to cityadmin@bainbridgewa.gov, provided that all remote commenters shall be required to display their true name and to keep their camera turned on to show their true uncovered face while delivering their comments.

4. 5:50 pm Food Cyler Final Recommendations – Julie Matthews & Michael Kleeman

5. 6:15 pm Networks & Collaborations Update

6. 7:00 pm Discussion on Next Steps for Updating the Climate Action Plan – Laura Rýser

7. 7:20 pm Climate Manager Update - Laura Rýser

8. 730pm Adjourn

CCAC Subcommittee Recommendations Regarding Foodcycler Eco 5
May 13, 2025

One of the City's climate related goals is to reduce the amount of food waste going to the landfill thereby reducing the level of methane and other greenhouse gas emissions. The City currently has been asked by the manufacturer to promote the use of a food waste processor- the Foodcycler ECO 5. In simple terms, the ECO 5 is a countertop unit that processes household which chops and dries household food waste. The manufacturer recommends that the dried finished product be used as a soil amendment.

Councilmember Hytopoulos asked CCAC to provide some recommendations regarding the ECO 5. Specifically, she asked the following questions:

- 1) Does using the Foodcycler create more harm than good;
- 2) Is using it worth it from an environmental standpoint; and
- 3) Should the City promote its use.

To answer her questions, we borrowed the City's' ECO 5 and tested it at home for two weeks. A CCAC member ran 5 batches of household food waste in the unit noting ease of its use and kept track of what was processed, processing time and amount of finished product. See Foodcycler ECO 5 home Test and Review for the results of this test. Another CCAC member analyzed the environmental benefits and costs associated with using the ECO 5. He calculated the Life Cycle Analysis of the ECO5 and concluded that it would generate less greenhouse gas emissions than would be generated if the food waste was simply put into the trash to be landfilled. See Updated Supplemental Foodcycler Supplemental analysis. He also pointed out that on Bainbridge Island, diverting the food waste directly to the composting stream through the existing green bin/yard waste program or in an effective home composting system accomplishes the same goal, without the initial and ongoing emissions associated with manufacturing, distributing and operating a Foodcycler.

Our recommendations are:

1. Based on our analysis to date, using the Foodcycler does not appear to be harmful. Over several years of use it will generate lower levels of ghg than disposal of food waste into the regular trash.
2. Using a foodcycler, such as the ECO 5, would keep food waste out of landfills where such waste is a significant source of GHGs, principally methane. From that standpoint alone it may be environmentally beneficial, however the current green bin/yard waste collection program on Bainbridge can accomplish the same goals. Also note that users

of such devices without large gardens or property may not have a use for the quantity of soil amendment produced by the Foodcycler and the finished product may end up in the green bin or trash anyway, materially reducing any GHG benefit.

3. We recommend that all residents, including multifamily dwelling unit residents, have easy access to green and recycling bins and be educated on their use. We also suggest that as part of its ongoing waste program evaluation, that the City consider requiring that the green bin/yard waste (composting) and blue bin (recycling) be available at multifamily units.

The Foodcycler is a viable alternative for people who do not currently have access to the green bin/yard waste pick up program on the Island or do not have a home composting system. However, recommending the Foodcycler use should be limited to those who can properly use the end product in their gardens. Encouraging use of a Foodcycler may help educate Bainbridge residents about the climate impacts associated with food waste. We also suggest that promoting a foodcycler could be part of an expanded Island-wide educational outreach program about climate impacts of food waste and guidance on overall waste reduction. Information on the Foodcycler should be provided with the qualifier that the green bins provide comparable or better environmental benefit depending on how the finished product is utilized or disposed of.

We are happy to work with City staff on specific outreach and educational materials regarding the ECO 5 or the Climate Action Plan's waste reduction goals.

Foodcycler Supplemental Analysis

Estimated LCA Factors and Comparison with Composting and Disposal

Foodcycler in their advertising states that 10% of global GHG comes from food waste and 47% of food waste comes from household use. By extension using their equipment one can eliminate this source of GHG. However these percentages are based on the total food system, which includes growing, distribution, use and disposal. Additionally, the 10% number is largely due to food production using a huge amount of land, water and energy. The largest percentage of this is based on the approximately 1/3 of food production that never leaves the farm, and the residential use component is around 1/3 of that according to USDA. The net of this is that, as of 2010, the EPA estimated that 218.9 pounds of food per person per year was sent to disposal as opposed to composting with an equivalent of 153 pounds of CO² plus material amounts of methane, a more potent, but shorter lived, GHG.

It is important in examining the Foodcycler benefits that we have the options of Bainbridge Disposal curbside compost pickup or back yard composting. From a climate perspective the goal should be avoiding food waste in the Trash waste stream¹, which the Bainbridge Disposal program largely accomplishes at a low marginal GHG cost since green waste is already being collected and the food waste is a small percentage of the mass. But diversion from the Trash waste stream can minimize methane release, which may be the most damaging GHG impact and either approach should address that need. The city of Nelson in Canada has a similar organic waste diversion program and references Foodcycler is largely equivalent in GHG reduction to central composting².

We cannot perform a 1:1 comparison of Foodcycler vs. Green waste since we do not know the waste streams or if all households can or do use this service or the GHG emissions generated from composting activity (excluding energy to drive it). Absent that we can look at the GHG costs of the Foodcycler. Below we examine both the operating impacts (GHG from energy consumption to operate) as well as the life cycle costs of the product and disposables (carbon filter material). We contacted the vendor and they provided an LCA which we were able to compare to an independent LCA from comparable product analyses in peer reviewed literature.

Manufacturing and Operations impacts

The initial cost in terms of GHGs is in the product and consumables. The independent analysis provided a life cycle analysis of a Vitamix Blender (Vitamix owns Foodcycler). The

¹ Composting releases approximately 12% of the GHG of landfill disposal with very low methane output, but many factors can influence the total, including water level, waste mix, mixing strategies, etc.

² "In Nelson using the FoodCycler regularly should not cost you more than \$2 per month. The FoodCycler is comparable in CO₂e emissions to central composting (before transportation emissions) and backyard composting (if done correctly). FoodCycler offers a >95% reduction in CO₂e compared to sending food waste to landfill."

blender which was analyzed is a hand blender and the Foodcycler weighs 11.5x more (2.6 lb. vs 30 lbs.). The LCA has been scaled by 5x to be conservative, since the principal CO² equivalent costs are driven by materials mass this should be acceptable. This yields approximately 42 pounds CO² including materials, manufacturing and distribution. Note this does not include the mass of the raw materials that do not end up in the finished material which often end up in landfills. These numbers were comparable to the Foodcycle LCA which only examined one of the three units they distribute.

The unit uses electricity but also activated carbon in the filter system. The initial Foodcycler systems used disposable filters, but all of their current units use refillable cartridges. The system uses 1.6 lb. refill per 50 cycles, estimated .75 pounds CO² per refill which is the middle level of emissions for this mass. GHG in activated carbon depends on the feedstock and the manufacturing/ remanufacturing process, with coal based feedstock and coal base power driving might higher footprint than remanufactured product. This does not include transport emissions costs for the material or the packaging (plastic and cardboard) or the disposal of waste activated carbon (Foodcycler does not recycle the carbon and recommends disposal in the trash).

The estimation of consumption contributions is based on electricity source emissions and unit electric consumption. Based on PSE's 2022 GHG report their blended CO² emissions is 0.00046801 tons/kWh due to the fact that approximately 88% of PSE electricity is generated by burning natural gas, coal or oil. This CO² emission would be lower if one were using a clean energy plan or generating the power at home via solar. The vendor says that the unit uses 1.5 kWh per run, however they provide no detail. Given the approximately 10 hour run time experienced by Ms. Matthews (and this is consistent with my experience with a prior Foodcycler unit I had) and a peak 500W consumption this number seems low, especially as the vendor literature lists 4-9 hours run time. However, if we accept the consumption number that would yield around .09 tons CO² or 183 pounds per year³. This makes the energy during use the principal GHG footprint input, one that might be mitigated through use of renewable power.

If the per capita food waste per year would produce the 1203.95 pounds of CO² cited by the manufacturer (plus avoided Methane release) and assuming the majority of food is consumed in the home then a Foodcycler would have a net positive impact on GHG compared to putting these food scraps in the Trash. Diverting the same material to the composting stream or home composting accomplishes the same goal, without the initial and ongoing emissions due to manufacturing and operations. Where these alternatives available they would be preferable to a device like this in terms of GHG impacts.

³ This is equivalent of a typical car (400g per mile) driving 207 miles.