CITY OF
BAINBRIDGE ISLAND

Climate Change Advisory Committee Regular Meeting
Wednesday, April 16, 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. **5:30pm Call meeting to Order/Roll Call/Accept of Modify Agenda /Conflict of Interest Disclosure**

2. **5:35pm Approval of Minutes - March**

3. **5:40pm Public Comment**
   In person public comment is accepted currently 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. **5:50pm Group Photo for Volunteer Appreciation Event May 7th 6:00pm – 8:00pm, please join us.**

5. **6:00pm Networks & Collaborations Update**

   a. Intercounty Climate Partnership – Mike Cox
   b. Puget Sound Climate Preparedness Collaborative – Laura Rÿser

6. **6:15pm Food Cycler Trial Run – Julie Matthews**

7. **6:30pm Review CAP Dashboard**

8. **6:45pm CAP Energy Section Deep Dive – Jens and Derik**

9. **7:05pm Climate Manager Update - Laura Ryser**

10. **730pm Adjourn**

Attachments:

- 2025 City Staff Work Plan items for CCAC Participation

2025 CITY STAFF WORK PLAN ITEMS FOR CCAC PARTICIPATION

CAP SECTION	2025 CITY STAFF WORK PLAN ITEM	POTENTIAL CCAC ASSISTANCE
GHG Inventory	Measure 2023 GHG emissions and prepare for 2025 CAP update	Review draft inventory and public-facing educational materials
Energy	Implement and finalize community heat pump installation pilot program (educate community about heat pump options and provide direct information and financial incentives)	Work with staff to summarize findings from the pilot program and draft next steps
Energy	Review ETIPP technical assistance reports and identify/implement next steps	Help convene partners to discuss next steps
Transportation	Several potential projects are in discussion with staff now that may be applicable, including: • E-bike voucher program • Bike corral program	Assist with gathering data for programs, providing input on program development, helping with community outreach, etc.
Transportation	Finalize EV charging infrastructure code updates for multifamily properties	Assist with gathering data and soliciting public feedback as needed
Transportation	Develop strategies to implement the Fehrs and Peers recommendations on reducing our GHGs from transportation	Work with staff to draft recommendations
Buildings	Support the development of a more refined assessment of sea level rise	Work with staff to identify additional data needed
Community Engagement	Coordinate with community partners to host an electrification series	Support staff with coordination and promote event(s)
Community Engagement	Help promote community familiarity with, and use of, new resources regarding climate-friendly tree plantings	Identify community groups/target audiences for this information and help distribute new resources
Multiple	Finalize Climate Lens and pilot with at least 3 projects	Review results of pilot with staff and make adjustments to the tool as necessary
Waste	Consider the waste management strategy provided by the CCAC	Work with staff to review final strategy

Implementation	Review Climate Action Plan and develop updated version for Council and community consideration	Convene multiple engagement events with the public to solicit feedback in preparation for the update
Other	Respond to City Council requests as needed	Respond to City Council requests as needed
Other	Review and provide comments on proposed elements, goals, etc. for the Comprehensive Plan and Winslow Subarea Plan updates	Review and provide Committee feedback on draft plans
Other	Research best practices and support Council consideration of policy for community transition to electric landscaping tools	Assist with research and educational/ incentive program development; assist with promoting program and encouraging participation

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 CO^2 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 stream[1], 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 composting[2].

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 but they did not have a LCA for the product so we utilized what data we could from comparable product analyses in peer reviewed and company literature.

Manufacturing and Operations impacts

The initial cost in terms of GHGs is in the product and consumables. For this analysis we utilized a life cycle analysis of a Vitamix Blender (Vitamix owns Foodcycler). The blender

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[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."*

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 CO^2 equivalent costs are driven by materials mass this should be acceptable. This yields approximately 42 pounds CO^2 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.

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 uses1.6 lb. refill per 50 cycles, estimated .75 pounds CO^2 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 CO^2 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 CO^2 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 CO^2 or 183 pounds per year[3]. 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 1203.95 pounds of CO^2 (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.

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

Foodcycler Eco 5 Home test and review

4-12-25

I tried out the Foodcycler Eco5 at home for about two weeks. My review is as follows.

The Foodcycler is easy to set up and there are instructional videos online to show each step in the process. The user manual is easy to understand.

The device itself is pretty large and takes up a fair amount of counterspace. It is nice looking- black.

For a family of two we easily filled the collection/processing bin every day or two. I ran it during the day so I could monitor how long it took. The machine makes a not very noisy sort of a hum for most of the cycle- not as loud as or the dishwasher or the fan that kicks on when our oven turns off. Near the end of the cycle, it makes a grunting-like noise at random intervals. When running the fourth batch, the noises near the end were loud enough that I moved the unit into the garage.

The bin to collect the food scraps holds about a day or day and a half of food waste for the two of us. I filled the bin to the full line each time. The collection bin is placed in the Foodcycler unit for processing. Another countertop food scrap container was required for any food scraps generated during the Foodcycler processing time unless no food scraps were generated for that entire time. Running the unit through the night would eliminate the need for another container.

The scrap bin on the counter is not smelly. The lid to the scrap bin has a filter on it to help control order. The lid can be rinsed off as needed and is removed before placing the bin in the Foodcycler. There was no smell from the unit while processing. Instructions indicate that processing particularly smelly food may cause the unit to emit odors during processing and may shorten the lifespan of the filter.

I ran 5 batches of food scraps in the Foodcycler. The processing time for a batch was between 9.5 and 11.5 hours. The time seems to vary depending on what was in a particular batch. We did not have any bones or hard shells which I think may take longer. Popcorn kernels and eggshells did not break down completely.

The unit goes through its cycles automatically and then when it is finished it has a cooldown period before the unit switches off. It is possible to open the unit and peek inside during the processing. The instructions indicate that one can add food scraps partway through the cycle and then it will just take longer to complete the cycle. I did not do this. The unit is very simple to manage and operate. The bin slides in and out of the unit smoothly and easily. It doesn't need any attention while it is running. It could be convenient to run it at night.

After just 3 batches the inside of the Foodcycler began to have remains crusted on the little ledges inside the collection bin. I did not clean this completely off because the instruction discouraged doing so and indicate it doesn't impact the unit's performance.

The finished product looks like dry pencil shaving. It is light, dry and fluffy, and has a slight earthy smell. The quantity of the finished product varied depending on the contents of the batch but was somewhere between 2 and 4 cups. I can see that the finished product would add up rather quickly. I have only a small garden, so I don't know what I would do with more than a few weeks' worth of

product. The finished product takes up about a quarter of the space of the unprocessed food scraps and is quite light. It could go in my yard waste bin, but this option is not available to Island residents in multifamily buildings/complexes who don't have access to yard waste pick up.

I haven't tried planting in the finished product yet. To use the product as a soil amendment, the instructions say to mix 1 part product into 10 parts soil (or up to 15 parts dirt if there was meat or dairy in the product.) Then, wait 1 to 4 weeks before putting plants or seeds in it.

I ran the unit for a total of about 52 hours. The charcoal filter in the unit needs to be replaced every 3 to 6 months or approximately 500 hours- whichever comes first. There is a reminder indicator light when it is time to change the filter.

Contents of each batch I ran in the unit:

Batch 1

Contents: banana peel, 1 artichoke stalk (cut up a little bit) and leaves, 2 coffee filters and grounds, a few strawberry tops, skin from half an onion, ends from 1 pound of asparagus, 1/2 lime cut, celery stalk, 4 tea bags
Time: 9.5 hours plus about .5 hours to cool. The unit shuts itself off when it is finished.

Batch 2

Contents: 6 eggshells, tomato, ½ lime cut, 1/4 red pepper, strawberry tops, 3 coffee filters and grounds, 4 teabags, 2 banana peels, handful of old broken m&ms, bread crust, 3 fish soaked paper towels, mushroom end trimmings
Time: 11.5 hours

Batch 3

Contents: onion skin, 2 cups potato peels, moldy head of garlic, seeds from one jalapeno, moldy slice of bread, 2 avocado pits and skins, stems from 1 bunch cilantro
3 eggshells, salad and quinoa scraps, 1 lime.
Time: 10.5 hours

Batch 4

Contents: banana peel, 3 tulip stems, ½ lb freezer burned hamburger, 2 coffee filters and grounds, 4 tea bags, onion skin, ¾ cup un-popped popcorn kernels, peels and ends from 2 eggplants, garlic paper and ends of garlic cloves
Time: unsure. I estimate 10 hours. At 7 hours it was too loud for the kitchen which is just outside our bedroom so we moved it to the garage. I'm not sure what time it went off. This batch had un-popped popcorn kernels in it- maybe that was making it noisier? The kernels did not get completely ground up.

Batch 5

Contents: peels and ends from 2 eggplants, 1 banana peel, 1 eggshell, bread crusts, 2 coffee filters and grounds, 4 teabags, ½ cucumber, end from one head of lettuce, about 1 cup cooked white beans, parsley stems
Time: 10.5 hours

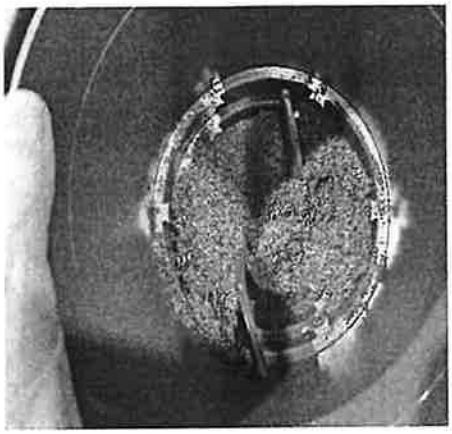
Photos of the Foodcycler Eco 5

Inside the collection/processing bin

Batch 1

Batch 1 after 2.5 hours

Batch 1 when done- about 10 hours



Finished product from batch 1

Inside of processing bin after running 1 batch

Crusty inside of bin after 3 batches

Batch 2

Batch 2 after half an hour!

Batch 3

Batch 4

Batch 5

Finished product from 5 batches