

Puget Sound Regional Emissions Analysis

Public Meeting Summary

Workshop Overview

- This document summarizes participation, discussion, questions, and feedback from the Puget Sound Regional Emissions Analysis Public Workshop, held on Zoom on October 28th, 2021 at 5:00–6:30 pm PST.
- The target number of participants was 30-40; 48 attended (excluding consultant & County project team).
- The workshop agenda is below:

Time	Item
10 min	Welcome + Introductions
15 min	Project Overview Presentation + Q&A
20 min	High-level Project Discussion: Priorities, Concerns, Ideas
15 min	Project Deep Dive
3 min	Break
20 min	Equity + Just Transition
5 min	Communications + Outreach
2 min	Conclusion & Next Steps

Workshop Objectives

- Build early awareness of GHG analysis process
- Ensure both consumption-based and geographic-based approaches are understood
- Gather ideas, priorities, and concerns
- Solicit feedback on Just Transition considerations and metrics/indicators
- Build stakeholder relationships
- Gain understanding of how GHG analysis outcomes can be used
- Understand what questions stakeholders have about regional emissions
- Summarize recommendations from community on their priorities and input into the project

Key Takeaways

Workshop participants

- Of the 19 workshop participants that answered the demographic polling questions, **most live in King County (84%)** and are **female (74%)**. A variety of ages were represented at the workshop.
- Of the 34 workshop participants that answered the discussion polling questions, 41% ranked their **comfort level with GHG inventories/emissions** analyses as “average.”
- **Energy** was the most popular emissions-producing activity or source of interest (12 of 34), followed by **on-road vehicles** (7 of 34).
- Interest in **strategies for reducing emissions** was well-distributed, with the highest interest in developing strong building, energy, and water codes for low/zero carbon buildings (8 of 34).
- Less than half (44%) of participants have estimated their **individual or household carbon footprint**, and 56% have not.

Key themes

- Workshop participants were especially interested in **education** and **equity** as they relate to this project, GHG emissions reductions, and Just Transition principles.
- **Frontline communities** that are impacted most need to be involved with this work every step of the way. This may include ensuring funding, focusing projects in areas and communities that most need them, ensuring affordable housing, and compensating people for their time. Participants also suggested engaging community colleges and other community members to understand what **green jobs** would be meaningful and desirable.
- Participants showed interest in emissions from **consumption, aviation, refrigerants, and land use**.
- Participants expressed interest in using the outcomes of this project at the **individual and government levels**; some people hoped that the outcomes could inform policies and programs at the City level, and some participants envisioned the outcomes spurring individual and community action around consumption.
- In terms of **project engagement and communication**, participants suggested making information understandable for all education levels, defining terms, using videos and digestible graphics, telling stories, and ensuring that materials are translated to multiple languages.

Polling Results

Attendees were asked four polling questions during the discussion portion of the workshop and four demographics questions at the end of the workshop. The questions and responses are summarized below. (Percentage values are rounded to the nearest whole number, which may result in values not adding to 100%).

1. How would you rank your level of comfort with greenhouse gas inventories/emissions analyses?		
	#	%
Very High	6	18%
Above Average	7	21%
Average	14	41%
Below Average	6	18%
Very low	1	3%
Total	34	100%

2. What emissions-producing activity or source interests you the most?		
	#	%
Agriculture & land use	3	9%
Aviation	1	3%
Energy (e.g., electricity, natural gas, propane)	12	35%
Fugitive gases (e.g., refrigerants)	0	0%
Maritime vessels (e.g., ferries, recreational boats)	1	3%
On-road vehicles (e.g., passenger cars, transit)	7	21%
Off-road vehicles & equipment (e.g., construction equipment)	0	0%
Purchased goods & services	4	12%
Solid waste (i.e., garbage)	2	6%
Water & wastewater (i.e., water and sewage)	4	12%
Total	34	100%

3. What strategy for reducing emissions interests you the most?		
	#	%
Develop strong building, energy, and water codes for low/zero carbon buildings	8	24%
Improve energy efficiency in existing buildings and homes	4	12%
Make it easier for commercial and residential buildings to source/install renewable energy	2	6%
Develop dense, mixed-use, compact communities	4	12%
Expand access to safe, efficient transit and multi-modal transportation options	4	12%
Partner to electrify or move to zero-emission fleets (school buses, first responder vehicles, buses, ferries, commercial)	4	12%
Educate residents about tools and resources to reduce carbon and save money through energy, water, and waste conservation	3	9%
Expand green spaces and tree canopies to increase carbon sequestration potential and enhance resilience	1	3%
Incentivize responsible purchasing and promote zero waste policies and actions throughout the community	3	9%
Require proper disposal and encourage recycling & reuse of Organic as well as Construction & Demolition wastes	1	3%
Total	34	100%

4. Have you ever estimated your individual or your household's carbon footprint?		
	#	%
Yes	15	44%
No	19	56%
Total	34	100%

1. What is your age?		
	#	%
Under 12 years old	0	0%
12-17 years old	0	0%
18-24 years old	0	0%
25-34 years old	5	26%
35-44 years old	2	11%
45-54 years old	1	5%
55-64 years old	4	21%
65-74 years old	5	26%
75 years or older	2	11%
Total	19	100%

2. What is your gender?		
	#	%
Female	14	74%
Male	3	16%
Non-binary or non-conforming	0	0%
Genderqueer	0	0%
I prefer not to say	2	11%
Not listed	0	0%
Total	19	100%

3. Which of the following best represents your racial or ethnic heritage? Select all that apply.		
	#	%
Asian or Asian American	0	0%
Black or African American	2	11%
Latino, Latina, or Latinx	1	5%
Native American/American Indian/Alaskan Native/other indigenous group	0	0%
Native Middle Eastern, North African, or Arab	0	0%
I prefer not to say	2	11%
Other*	14	74%
Total	19	100%

*Includes White ("White" was unintentionally omitted from the options list).

4. Which of the following geographic areas best describes where you live?		
	#	%
King County	16	84%
Kitsap County	0	0%
Pierce County	1	5%
Snohomish County	0	0%
Another county in Washington	1	5%
Outside of Washington State	0	0%
I prefer not to say	1	5%
Total	19	100%

Breakout Room Discussion

Participants divided into five breakout rooms to discuss their priorities, concerns, ideas, and questions. Key themes and raw notes from the breakout rooms' Miro board responses are shown below for each set of questions.

What would you like to know most about the region's greenhouse gas emissions? What questions would you like answered?

Key themes:

- Interested in consumption emissions, land use change, impact of refrigerants, and aviation and maritime emissions
- Communication and education—important to communicate results for children, the public, etc.
- Equity—important to understand impacts and connections between climate, poverty, education, and racism

All responses:

- Intense detail on consumption emissions (disaggregated)
- Important to communicate results for lay-people, grade schools, etc.
- Impact of refrigerants, particularly commercial; how to get out of system
- Look at things produced elsewhere and consumed here
- Interested in consumption emissions, land use changes
- Consumption of greenhouse gases related to aviation
- The effects of maritime and air travel emissions - how much is private, air, freight, passenger
- Make more comprehensive emissions estimates from airports. The geographic location of air travel emissions is also important (i.e., what communities are these emissions impacting?)
- Understanding where we are today and where we need to be to reach goals
- Progress or lack of progress of cities
- Poverty and racism impact GHGs
- In addition to racial equity, there are other important determinants of equity that need to be considered in relation to climate action. For example: education; poverty; disabilities
- City - relevant mitigation options set out in CA (cool climate work)
- Wedge analysis at city level
- Online dashboard for individual cities
- Data on T&Cs (e.g., uber and lyft)
- Can we set targets to be met at different frequencies? (Measure success as we progress; have time to track progress)
- What is the major sources of emissions to focus on to reduce emissions?
- City coordination and alignment—what governments is the project working with? Will the interactive dashboard be at the city level? Interest in city level wedge analysis
- I'd like to know what King County thinks the fastest area will be to reduce GHG (what is the low hanging fruit?)
- Can we measure the positive impacts of programs/policies (e.g., mixed use)?
- Does the scope of the project include the interactive dashboard at the city level?
- What education efforts are being made?
- Modeling and calculations—Based on past inventory: 2 concerns: using old methodology—pandemic related activities reduced emissions, how do we account for the recent change? (Answer: data will be gathered from 2019 which should model normal activity.)
- Looking at things at high level missing local pockets, taking away from their significance. How are hyper-local blocks being looked at? Are we telling the whole story?
- Seattle Cruise Control group focusing on cancelling cruise ship terminal and non-essential trips. Any way this project can address scoped emissions?
- What governments are we working with? Who guarantees that local groups have accurate data?
- Alignment and coordination with city developed inventories. And if there are differences clearly document them
- The equity portion of the analysis is super critical and needs to be a major focus
- How much individuals control GHG of the whole county - lifestyle choices (vs institutional buildings, mass transit, industry etc.) BUT can control everyday actions
- Process/tool kit to support community organization (e.g., what's the sequencing of action year 1 X mitigation year 2 Y mitigation to support public discussion)

How would YOU use the outcomes from this analysis?

Key themes:

- Prioritization of emissions reduction strategies and policies for cities; outcomes can help inform legislation, bolster policy change, and inform urban planning and urban policy projections
- Communication and education with the public and local communities about emissions and how to reduce emissions, especially consumption impacts
- Learn from what is and isn't working to make progress
- Create community spaces for engagement; good data combined with personal experience and stories can help eliminate health disparities

All responses:

- Use to prioritize the 'asks' of cities. Cities look at the low hanging fruit; they need to address the biggest sources and get going on those. Prioritization by largest sources.
- Liked the wedge diagram—how much for each policies the GHG impacts to help prioritization. X policies get Y reduction—how the different policies stack up.
- Education of the public, getting more in the mindset of people
- Use in personal life for personal changes—connects with water conservation. Help organize local community actions
- Simple graphics to help communicate—e.g., with neighbors
- Improve communication to public about their impacts (especially consumer impact)
- It will still be important to work on climate action at a state level, such as the Comp Plan State legislation that failed in 2020
- Inputs for comp plan updates for local jurisdictions
- Use information to help pressure government officials to inform legislation and decision
- Craft program/policy to drive emissions reductions associated with consumption (at City level)
- Creating community spaces for engagement around these issues. Having good data in addition to our stories as we work towards eliminating health disparities
- Urban planning and urban policy projections—20/30/50-year timelines
- Address accountability for the different gov't levels
- Understanding what works and what isn't working—learn from each other and make progress
- Bolster arguments on policy changes
- Talk to manufacturers—market-based persuasion
- As part of the Burien Climate Action Plan, we (People for Climate Action) members will be reviewing outcomes from this analysis/project and considering what outcomes/future actions should be informed by this analysis
- People for climate action Seattle. Public action

How would OTHERS use the outcomes from this analysis?

Key themes:

- Outcomes could reinforce policy insights and help put pressure on political leaders and governments
- Outcomes could help CBOs mobilize resources
- Education and communication—encourage people and communities to make lifestyle and consumption changes
- Tools to be used at different levels and for different audiences

All responses:

- Help CBOs mobilize resources given nuanced look at consumption emissions
- Transparency can socialize the information more (communications and education)
- In combination with other information to reinforce policy insights
- Put pressure on political leaders
- If outcomes are easily understood, others may be encouraged to make changes in their lifestyles
- Spur action in other communities to begin looking at Scope 3 emissions (i.e., consumption)

- Visibility of various geographies—look at best practices to see how you can utilize those results/lessons learned
- Want to see how the information and data from this project can feed into education requirement/necessities/tools to help with what individuals and local government staff and others can do to reduce GHG emissions
- Tools that can be used at different levels and audiences
- City of Seattle tool for taking action is worth referencing/looking at

What do you see as the role of equity and Just Transition principles in the context of this project?

Key themes:

- Ensure frontline communities most impacted by GHG emissions help shape this work every step of the way; incentivize and support people for their time (childcare, funding, etc.)
- Education should be based on community connections and has an important role to play
- How is this going to lend itself to anti-displacement?
- Project can help identify opportunities related to climate solutions (e.g. jobs; education; incentives; compensation; investments in communities)

All responses:

- Metro equity council—good model for approaching this work
- Ensure front line communities most impacted by GHG help shape this work in every step of the way (on the inside, need to be consulted, impacts discussed)
- Need incentives and support for people
- Impacts on health—often impact frontline communities more
- SPU—shape our water plan session on Native Americans on water perspectives. Total shift on long term thinking
- Helping communities coming together on climate action
- Connecting people to understanding how they can be part of the solution, not the cause of the program
- We need systemic change to solve both climate and equity
- A major theme heard is that using "just transition" data and indicators as ways to educate is very important
- Educate to get folks on the same page, paired with the solutions
- Education based on community connections. community based program, the ones who know the people, the ones who are part of the community
- Education is the most important role—these folks may be the least accessible
- Inviting everyone joining together, different types and needs for education is super important
- How is this going to lend itself to anti-displacement?
- People and communities most impacted should be at the table during planning stage
- We don't know lived experiences without hearing from the communities
- What does it mean to bring in people and compensate them for their time? Childcare, etc.
- Post pandemic concerns. How can we translate the work to increase access?
- Continue to be central to the process & outcomes
- Create awareness for the most impacted communities
- There needs to be a way of ensuring and directing funding
- Focus projects in needed areas and communities
- E.g., affordable housing should be adequate to the changing climate

What equity or Just Transition considerations or recommendations do you have for the project team?

Key themes:

- Communication and education—visualize findings, engage the public, focus on cultural relevancy and language access, educate about emissions and actions, and use story telling
- Ensure that frontline and at-risk communities are leading these efforts throughout the whole process
- Accessibility—what are we asking and who can attend (time of meeting, pay, etc.)?

- Green jobs—engage with community colleges and other community members to learn what green jobs would be desirable and meaningful

All responses:

- Would like to see deep engagement to understand from community what jobs would be desirable and meaningful that would be involved in this topic
- Include community colleges in discussion of green jobs
- Think about accessibility (time of meeting, pay, etc.). What are we asking and who can attend?
- Trees/shade and effects are important to consider— from point of view of impacted communities
- The heat map that was released was extremely helpful—continue to find ways to communicate and visualize findings
- More ways to communicate and view findings
- Strategic planning for the public engagement
- Let the public know what is being done—have a point contact that can provide answers
- Public education. Requires additional work i.e., language access, cultural relevance
- Educating the public to arm communities with understanding choices they have
- Need to develop an education program to support getting the word out about emissions and actions
- Ensuring frontline communities and at-risk communities are leading these efforts
- This includes funding, decision, making, and all other steps of the process
- Make sure everyone can afford change
- Diesel particulate is very harmful (movement of trucks, vehicles idling, Especially Duwamish Valley)
- Unbiased, factual data
- There are always going to be people in all communities that don't care. In part because of reticence to change. Don't focus time or attention on these people
- For climate action, recognize that different actions and strategies for different folks depending on circumstances
- More difficult to get results out to some communities—e.g., most of the public meetings are attended by people in single family homes, more difficult to get to people in multifamily housing
- 350 Seattle on equity work & Sierra club
- Language barrier is a challenge
- Encourage story telling can be influential—e.g., things in the media around COP. Take for granted that BIPOC communities aren't interested but there are barriers (resources etc.) to participation. People are ENGAGED on climate. Stories can influence to help shift
- Seattle - more conversations around comp plan update. more feedback so more people can be part of it. More efficient considering people's time. A geographic story map—who else has posted a story neighborhood?
- A cultural story map to help cross divides— democrats/republicans/people of color

What equity-related outcomes do you hope to see from this project and process? What equity-related information would help you take action to reduce your own GHG emissions?

Key themes:

- Involve frontline communities and provide tools for them to view results and take coordinated action with cities and counties
- In what types of communities/regions are impacts happening (from our consumption)—are we perpetuating existing issues?
- Can the project keep track of funding sources for climate action to help residents, neighborhoods, etc. access solutions?

All responses:

- Help communities who are impacted be able to see and view results—allow them to take coordinated action with cities and counties
- Continue to heavily involve frontline communities
- Action is better than inaction
- Can the project keep track of funding sources for climate action to help residents, neighborhoods, etc. access solutions?
- Understanding timelines and key requirements
- In what types of communities/regions are impacts happening (from our consumption)—are we perpetuating existing issues?

Q&A Discussion

A summary of the Q&A discussion is presented below. Some questions asked in the chat have been edited for clarity and grammar.

- **What are some of the data sources on which the project relies?**
 - *Answered verbally: Local data sources include electricity and natural gas usage and vehicle emissions data from Puget Sound Regional Council. On the consumption side, the data will be more of an estimate based on a model by UC Berkeley.*
- **If we are measuring electrical emissions that are generated from other locations, does that mean that the emissions created from the generation in that other location will be included in the measurement? And does that duplicate measurements made in the other location by another group?**
 - *Answered verbally: We are accounting for emissions generated elsewhere but related to local activities (for example, coal-related emissions produced elsewhere but that help satisfy local electricity demand). If a factory outside of King County makes something that we consume in the county, we are counting those emissions. We are not worried about duplicates; we are focusing on our contributions to climate change and what we can do to reduce those emissions.*
- **What's the expected completion date for the GHG analysis?**
 - *Answered verbally: Middle of next year.*
- **What do you do to match the information sources on a regional and national (and possibly international) level, so we are not comparing apples to oranges but apples to apples? Are the same methodologies used?**
 - *Answered verbally: We are following best practices and standard protocols. That's the best way we can compare region to region. There are different ways to count things so sometimes those comparisons are challenging.*
- **Best practices from whom? Based on what?**
 - *Answered in chat: Our geographic inventory will be compliant with ICLEI's U.S. Community Protocol and the Global Protocol for Community-scale GHG Emissions.*
- **What about consideration of consumerism (the life cycle of the products we consume here)?**
 - *Answered in chat: Yes, that's the focus of the Consumption Inventory!*
- **Is it correct that diesel particulate matter is not included? As it is a particulate?**
 - *Answered verbally: The focus is on greenhouse gas emissions, so diesel emissions are included in that, but the impact of diesel emissions on particulate matter is not being explicitly measured.*
- **Can we have a brief intro to interpreting a wedge analysis graphic?**

- *Answered verbally: A wedge graphic is similar to a pie chart. The top line represents a BAU scenario, which forecasts emissions with no action. Working down, the stacked wedges reflect the relative impact of various actions.*
- **Landfill emissions constituted 1% on your chart. Are you using King County Solid Waste's estimates?**
 - *Answered verbally: We are using multiple different sources for landfill emissions including King County solid waste estimates for Cedar Hills Regional Landfill and closed landfills owned by King County.*
- **Is there information on how PSRC does VMT data collection?**
 - *Answered verbally: We will dig into this more in the next phase as we gather data, but the understanding is that they estimate typical daily vehicle travel by different vehicle types on public roads, and that data is validated by real count data of traffic volume and WA department of licensing data.*
- **How to coordinate with analyses already done by King County cities?**
 - *Answered verbally: King County-Cities Climate Collaboration (K4C) is a partner in this project. There is some redundancy in that a few cities have developed their own emissions inventories. However, many cities in King County have not done inventories, and no cities have done consumption-based inventories.*
- **How much of the inventory will be based on current measurement?**
 - *Answered verbally: We will get data specific to the years of the inventory (2019 and 2020) when possible, but some data will be modeled.*
- **How far back will you be baselining?**
 - *Answered verbally: In general, King County's baseline for existing GHG reduction targets is 2007.*
- **How will these emissions calculations for cities compare with SCOPE5 emissions calcs?**
 - *Post-meeting response: As we understand it, Scope 5 is a sustainability and GHG reporting system and platform and does not have its own emissions calculations. A city could report on emissions calculated from this project through the Scope 5 platform if desired.*
- **How does King Co collect data on emissions from buildings?**
 - *Post-meeting response: Emissions data from buildings is calculated based on energy use data for buildings as provided by local energy utilities (Seattle City Light and Puget Sound Energy).*
- **Once the inventory is complete, what are the anticipated next steps for regional emissions and consumption patterns?**
 - *Answered verbally: This will support all cities in King County developing and implementing climate action plans and strategies, it helps us report on progress to date, and it will support the next wave of GHG reduction strategies.*
- **How do you measure GHG emissions? With sensors to collect live data or through modeling?**
 - *Answered verbally: We aren't doing any air quality measurements. This is all based on, for example, how much natural gas is burned or how much vehicle traffic exists, which is then translated to GHG emissions. The consumption inventory is less counting things and more of a model.*
- **Can you please provide a written detailed breakdown of solid waste emissions constituting to 1%? Same for sewage sludge including x-amount (please fill in the number) truckloads going to Eastern WA of sewage (which you also refer to as 'biosolids')?**
 - *Post-meeting response: Yes, all emissions data for the project will be publically available as a result of the project. Publically disclosing our emissions sources and the methodologies used for these estimates is a major focus of the project.*
- **Are cities going to be contacted and consulted with during this process?**
 - *Post-meeting response: Cities in King County that are members of the King County-Cities Climate Collaboration are funding partners and collaborators on the project. All cities in King County are welcome to join the K4C. Additionally, if other cities are interested to consultant during the project, we welcome that collaboration.*
- **You said data is based on measurements. Measurements of what?**
 - *Answered in chat: We seek to use measured (as opposed to modeled) data, where possible. One example is utility energy consumption data, which is based on metered/billed energy consumption as tracked by the utility.*

- **Active measuring of air emissions for methane and other sources is possible and accurate—why aren't you using that concept to get actual measurements?**
 - Post-meeting response: We agree that this is an important emerging field, but it is beyond the scope of the project. We understand that this methodology is becoming increasingly useful in applications such as measuring fugitive methane emissions from pipelines and landfills.
- **Yes, what about methane? Could a dairy farmer monitor their own emissions from their manure lagoon, for instance?**
 - Post-meeting response: Nothing in this project precludes any local entity measuring their own emissions.
- **Will there be any analysis of GHG uptakes, e.g. increased tree canopy, public transportation, use of non-GHG energy sources, increased use of regenerative agriculture, to balance with GHG output reductions (hoping there are reductions...)?**
 - *Answered in chat: Yes, we will be looking at emissions and removals associated with land use change, so to include both emissions from deforestation and sequestration from tree canopy expansion*
- **Will you be disaggregating collected data based on demographics?**
 - Post-meeting response: We plan to disaggregate collected data based on location (of various scales), where possible and also plan to compare estimated consumption emissions by census block group compared to overall demographic elements of that block group.
- **Was "white" left out of the racial categories intentionally, to give us the experience of being "other"?**
 - Post-meeting response: This was not intentional.

Community Engagement Approach

Participants responded to the following questions in the chat: **Do you have suggestions of others to engage with on this project? What way of representing or communicating the outcomes do you think will be most helpful for the community?**

- Got Green organization
- Communicating the outcomes: make the information understandable for a lower-education demographic; define terms, and don't use a lot of terms that wouldn't be used in average conversations. This helps engage
- Ways of communications: short, videos, in-language, digestible graphics, transcreated
- Please send a broader invite next time. Use other groups to get the word out