

Evaluation Methodology(s) for Air Quality and Climate Change Policies and Programs

**Project prepared for Metro Vancouver as part of University
of British Columbia Sustainability Scholars Program under
the Supervision of John Linder, Air Quality Planner**

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A. PROJECT SUMMARY

I. About Metro Vancouver

The Metro Vancouver Regional District (known as Metro Vancouver) is a region of 23 member jurisdictions with a population of 2.5 million people. Metro Vancouver is governed by a Board of Directors, whose constituents include elected members from each member jurisdiction. Metro Vancouver manages air quality in the region under authority provided by the Provincial government in the Environmental Management Act. In support of this mandate, Metro Vancouver also implements and coordinates climate change measures.

In 2011, Metro Vancouver released its Integrated Air Quality and Greenhouse Gas Management Plan (“IAQGGMP”). The IAQGGMP includes a number of goals, strategies, and actions that address the protection of public health and the environment, the improvement of visual air quality, and the minimization of the region’s contribution to global climate change. The 2014-2018 Board Strategic Plan directs Metro Vancouver staff to “...develop, adopt and implement a regional climate action strategy for reducing regional greenhouse gas (GHG) emissions...”, as well as “...identify the key threats to the region’s air quality and their sources, and pursue appropriate means for reducing or eliminating identified threats...”.

Metro Vancouver is developing new regional air quality and climate change action plans. In order to guide plan and strategy development, Metro Vancouver is investigating the policy analysis that tools were used in other jurisdictions to identify, prioritize, and implement various policy and programs.

II. Purpose

This report is intended to summarize, compare, and possibly prioritize tools and methodologies used by air quality and climate change agencies in other jurisdictions when conducting background analysis, consulting on, and drafting their air quality and climate changes plans, programs, and policies. The resulting report will inform the approach taken by the Air Quality and Climate Change division at Metro Vancouver when developing new plans and policies, particularly with respect to whether past practices should be adjusted and/or adapted. The report is intended to provide guidance on how to best structure, assess outcomes or impacts, and/or prioritize for inclusion various policies and programs, or policy packages.

The following questions guided the data gathering process:

1. Which tools are best used to evaluate the potential impact of P&P’s under consideration?
2. Which tools are best used to determine which P&P’s to include in the new management plans?

III. Objectives

Generally, the project is intended to provide a cross-jurisdictional comparison of best practice with respect to the tools and methods used for plan development, and to collate this information into a single convenient document.

More specifically, the report has the following particular objectives:

1. **Provide Interview Summaries** - The report contains summaries of interviews conducted with eight different air quality and/or climate change agencies across several different jurisdictions. This includes information about the plan development process in each jurisdiction, stakeholder engagement practices, policy and program tools/methods used, and insightful comments from each agency representative as to the success of each tool.
2. **Identifies Key Themes** - After obtaining considerable information, this report aims to clearly identify key themes and lessons that consistently arose across the jurisdictions.

IV. General Summary of Findings

The project was initially focused on identifying the best means of prioritizing actions for inclusion in Metro Vancouver's new plans. However, it quickly became apparent that formalized prioritization mechanisms and tools are not widely utilized in planning processes. In fact, many agencies do not use any formalized tools, but nonetheless continue to successfully implement specific actions. Developing and implementing air quality and climate management plans tends to be an organic process, which targets the specific needs of the Agency and the corresponding community.

The project has shown that the key to a successful plan is about the structure of the planning process and stakeholder engagement, and the way in which selected tools are used to justify the specific actions, policies, and programs that are incorporated into the relevant plan.

B. METHODOLOGY

This section provides an overview of how information was collected, and how general findings were identified.

Step One: Review of Metro Vancouver Plans

First, it was necessary to review the tools and methodologies previously used by Metro Vancouver. This step was essential to later identify similar jurisdictions to ensure information collected would be helpful and applicable to Metro Vancouver.

Step Two: Review Various Air Quality and Climate Management Plans

Seventeen different air quality and climate management plans were reviewed from a broad range of jurisdictions. This included an assessment of the goals, objectives, and specific actions contained in each individual plan. Also of importance was the timing of each individual reports. Reports that were developed and/or implemented in the last 5 years were prioritized.

Step Three: Identify Preferred Jurisdictions

In conjunction with Metro Vancouver, eight preferred jurisdictions were identified. These jurisdictions were selected for various reasons, including the overall ambitiousness of the plan, geographic and political similarities to Metro Vancouver, and the recent development and implementation of the plans.

Appropriate representatives from each agency were identified, and a preliminary email was disseminated to them describing the project and requirements, and to request participation.

The eight selected jurisdictions and representatives were:

Austin Office of Sustainability - Zach Baumer, Climate Program Manager

Bay Area AQMD - Christianne Riviere, Principal Environmental Planner

Greater London Authority - Elliot Treharne, Air Quality Manager

King County - Matt Kuharic, Senior Climate Change Specialist

New South Wales Environmental Protection Authority - Roger Bluett, Manager Air Policy & Alethea Morison, Acting Manager Strategic Policy and Programs

Portland Bureau of Planning & Sustainability - Michele Crim, Sustainability Manager

Puget Sound Air Quality Agency - Andrew Green, Director, Air Quality Programs

South Coast AQMD - Michael Krause, Planning and Rules Manager

Step Four: Prepare Interview Materials

With the assistance of Metro Vancouver, nine specific interview questions were developed in order to target information relating to the two guiding questions identified in Section A.II. (“Purpose”). Appendix A summarizes the interview materials used. Note that only the 9 standard questions were asked, and the Master Questions Sheet was used to supplement discussion where necessary.

Step Five: Conduct Interviews

Representatives from each jurisdiction participated in a 30-60 minute interview regarding their plan development process and policy and program tools. They were also asked to comment on the relative effectiveness of each tool.

Interviews were semi-structured, and were guided primarily by each individual representative. In some instances, materials were provided in advance to allow for a more descriptive discussion. See Appendix B for the initial interview findings.

Step Six: Identifying Key Themes & Areas for Follow-up

The project included a two-hour presentation to Metro Vancouver staff, which summarized the initial interview findings. The group collectively brainstormed areas for follow-up based on the key themes and best practices identified.

Identified areas for follow-up included the following:

Austin Office of Sustainability - Copies of waterfall charts and the community survey used, as well as the data used to create each “persona” included in the plan.

Bay Area AQMD - Feasibility review, and the creation and use Multi-pollutant Evaluation Method.

Greater London Authority - The “adaptation approach”, the funding structure for the Air Quality Fund, and information about the success of public messaging used by the Agency.

King County - The Community-scale GhG tool and the general details surrounding the economic analysis conducted by the Agency.

New South Wales Environmental Protection Authority - Data used for the particle characterization study.

Portland Bureau of Planning & Sustainability - The equity working group and corresponding engagement process, as well as the use of the consumption-based emissions inventory.

Puget Sound Air Quality Agency - The issue paper process and whether the plan includes GHG emissions.

South Coast AQMD - The mechanisms used to measure the success of incentive programs, what cost-effectiveness threshold is used, the application of CEQA, and whether GHG emissions are included in the plan.

Step Seven: Follow-ups

Each agency representative was required to answer four standard questions, as well as 2-4 questions tailored specifically to their agency. It was requested that representatives respond via email within two weeks of the initial correspondence. Please see attached follow-up materials in Appendix C.

***Please note that the timeframe for follow-ups was very limited. The Greater London Authority was unable to participate in the follow-up process.*

C. KEY FINDINGS

This section seeks to highlight the key trends and lessons identified by agency representatives with respect to the planning and implementation of various air quality and climate management plans. Key themes and findings were generally highlighted and identified during the initial interview process. While planning processes tend to be dynamic, varying drastically from agency to agency and from project to project, there are several general findings that can be applied to most planning processes.

I. Planning Process

1. **Ownership** - Ownership was discussed in a few instances, as it can impact how the process is structured. Consider who is meant to take ownership of the plan (staff, public, industry, etc.) and structure the planning process accordingly. By targeting the planning process to engage the primary stakeholders, or those responsible for implementation, the plan's success can be better ensured. The idea of ownership features most prominently in the Portland Bureau of Planning & Sustainability Preliminary Interview Summary located in Appendix B.
2. **Impact** - Consider where the agency can have the most impact (i.e. health, industry regulation, facilitating equity, etc.) and target those areas to create focus and coherence. It was noted that focussing on fewer issues enhances plan success and the overall positive impact that the agency can have. Impact is most directly addressed by the in the Bay Area AQMD Preliminary Interview Summary located in Appendix B.
3. **Flexibility** - Allow for flexibility in the planning process to facilitate engagement from all interested parties. It may also be necessary to adapt the development process to extract relevant information. A rigid structure does not always illicit the desired information, and changing to ensure that all necessary information is received can enhance the strength of the planning process, and the overall plan. Taking a flexible approach is most strongly advocated for in the Portland Bureau of Planning & Sustainability Preliminary Interview Summary located in Appendix B.
4. **Know when to stop** - Engagement activities and the pursuit of complete data selections can cause crippling delays in the planning process. Knowing when data limits have been adequately reached prevents undue delay. Details about data collection limits can be found in the Bay Area AQMD Preliminary Interview Summary and the New South Wales Environmental Protection Authority Preliminary Interview Summary, both located in Appendix B.

II. Stakeholder Engagement

1. **Ongoing & Iterative** - Engagement has to be ongoing and iterative. Regular meetings and continued dialogue ensures all voices are heard and helps to fine-tune ideas and strategies. It is also beneficial to ensure that stakeholders are engaged throughout the entirety of the planning process, as it facilitates the inclusion of all relevant issues. The importance of an ongoing and iterative stakeholder engagement process is discussed in the King County, Puget

Sound Air Quality Agency, and Austin Office of Sustainability Preliminary Interview Summaries, all located in Appendix B.

2. **Format** - Open-houses or external meetings tend not to be the most productive. Having regular working groups with representatives from a variety of interested areas is helpful and allows meaningful engagement with the planning process. Inviting the general public to engage through writing or email also limits time wasted on frivolous or narrow concerns. Format is primarily addressed in the Puget Sound Air Quality Agency and Austin Office of Sustainability Preliminary Interview Summaries located in Appendix B.
3. **Outreach** - Most agencies utilize booths or other community engagement methods to raise awareness about different policies and programs. While this approach tends not to address air quality or climate change as a whole, public outreach is helpful when describing the impacts or benefits that a policy or program may have. Details about outreach can be found in Appendix C, in relation to each respective Agency.

III. Tools & Methodologies

1. **Justify** - Use different tools to create “layers of justification” for proposed actions. Being able to have background technical data is valuable, but also being able to create a big-picture for the public can increase buy-in and behavioural change. This idea is discussed in the King County, South Coast AQMD, and Greater London Authority Preliminary Interview Summaries, located in Appendix B.
2. **Adapt accordingly** - Adjust tools to target and measure the areas of impact identified. A simplistic or traditional use of a tool is not always best. It is important to visualize how that tool can help the agency to make the impact that it desires. Please refer to the Puget Sound Air Quality Agency and Bay Area AQMD Preliminary Interview Summaries located in Appendix B.
3. **Test the policy and program package** - Using models to determine whether policy packages will be effective can help to revise and restructure policies and programs to reach the desired outcome. This idea was strongly advocated for in the South Coast AQMD Preliminary Interview Summary which is located in Appendix B.

D. FINAL CONCLUSIONS

From the outset, the project was intended to provide a cross-jurisdictional comparison of best practice with respect to the tools and methods used for plan development, and to determine the best possible mechanisms to prioritize actions for inclusion in Metro Vancouver's new plans. The project highlighted particularly fruitful agency policy methodologies through semi-structured stakeholder interviews. The project also illuminated practices that should be avoided, and those that could be adjusted for greater pay-off.

When developing the new air quality and climate management plans, Metro Vancouver should seek to create a clear vision, with corresponding goals that speak to the areas in which the Agency can have the most impact. Furthermore, Metro Vancouver should undertake a process that includes ongoing, structured stakeholder engagement, and perhaps leverage the expertise of community organizations or industry professionals. Most importantly, Metro Vancouver should seek to create significant buy-in from both the general public and agency employees to ensure that specific actions are adequately implemented and widely accepted. Justifying actions in a way that encourages ownership of the plan from different perspectives will ensure that it has lasting impacts.

APPENDIX A

Interview Materials

10	..... Interview Template
11	..... Master Question Sheet

PRELIMINARY INTERVIEW (TEMPLATE)

Agency:

Plan:

Representative:

Date:

Conducted via telephone ()

GENERAL QUESTIONS:

1. Can you describe the major steps in your plan development process?

•

2. What P&P tools were used for your plan development? (Examples include cost-benefit, econometrics, multi-criteria analysis, etc...)

•

3. How were P&P tools integrated into plan development process? Were different tools used for different policies/types of policies?

•

4. What information/data was needed to use these P&P tools?

•

5. Why did you select this P&P method or tool?

•

6. What questions was the P&P tools being used to answer? Prioritization or ranking P&Ps? Identifying risks? Health and economic impacts?

•

7. Was the P&P tool effective? Were there any challenges or drawbacks in relation to the tools or processes followed?

•

8. How were stakeholders and partner agencies involved in your plan development process and use of the tools?

•

9. Would you use these tools again?

•

MASTER QUESTION SHEET

1. Can you describe the major steps in your plan development process?

- Did your agency follow any specific model to develop your plan? What were the primary goals of the actions included in the plan?

2. What P&P tools were used for your plan development? (Examples include cost-benefit, econometrics, multi-criteria analysis, etc...)

- What policy and program (P&P) analysis tools were used in the development process, if any? For example, did you undertake a comprehensive evaluation of past policies, compare new policies under consideration, or use some other structured method to guide decision-making?

3. How were P&P tools integrated into plan development process? Were different tools used for different policies/types of policies?

- If so, why, and was this helpful to the outcome?
- Were P&P tools used to help identify and prioritize various policies and programs for implementation? If so, how was this done?
- Can you discuss how you draft the policies/actions in your plans to facilitate analysis? (e.g. metrics are predetermined and tied to specific policies/action)
- Did you analyze and/or prioritize broad or packages of policies or programs? Or stay focused on more specifically defined policies or actions? Example: Broad: Reduce PM 2.5 emissions from heavy duty vehicles. Specific: Implement a heavy duty vehicle inspection program. More specific: Implement a mandatory heavy duty vehicle inspection program for all heavy duty vehicles by 2020.
- In your view, is it more beneficial to rely on specific P&P's, or broad ones?
- Were there any tools which helped you to phrase the actions included in your plan? For example, did the P&P tools help to identify whether metrics should be inherent in the actions.

4. What information/data was needed to use these P&P tools?

- What outcomes did each the application of P&P tools yield?
- Are any partner agencies responsible for particular policies and programs? If so, was there a distinction drawn between these initiatives? How did you determine which initiative were best handled by partner organizations?
- Did you employ consultants or academic institutions to assist you? If yes, was this productive/helpful? What was their role?

5. Why did you select this P&P method or tool?

6. What questions was the P&P tools being used to answer? Prioritization or ranking P&Ps? Identifying risks? Health and economic impacts?

- Did P&P tools assist in identifying threats or risks?
- Metro Vancouver is interested in addressing potential health, economic and equity impacts. Has your agency addressed these issues, and what do you think are the best P&P tools to do so?

- 7. Was the P&P tool effective? Were there any challenges or drawbacks in relation to the tools or processes followed?**
- 8. How were stakeholders and partner agencies involved in your plan development process and use of the tools?**
- 9. Would you use these tools again?**
 - Would you have done anything differently? What different P&P tools would you have employed given the opportunity?

APPENDIX B

Preliminary Interview Summaries

14	.....	Austin Office of Sustainability - Zach Baumer, Climate Program Manager
17	.....	Bay Area AQMD - Christianne Riviere, Principal Environmental Planner
19	.....	Greater London Authority - Elliot Treharne, Air Quality Manager
21	.....	King County - Matt Kuharic, Senior Climate Change Specialist
24	.....	New South Wales Environmental protection Authority - Roger Bluett, Manager Air Policy & Alethea Morison, Acting Manager Strategic Policy and Programs
28	.....	Portland Bureau of Planning & Sustainability - Michele Crim, Sustainability Manager
32	.....	Puget Sound Air Quality Agency - Andrew Green, Director, Air Quality Programs
35	.....	South Coast AQMD - Michael Krause, Planning and Rules Manager

PRELIMINARY INTERVIEW SUMMARY

Agency: Austin Office of Sustainability (the “Agency”)

Plan: [Austin Community Climate Plan](#) 2015

Representative: Zach Baumer, Climate Program Manager

Date: June 1, 2017

Email: zach.baumer@austintexas.gov

Conducted via telephone (512) 974-2836

GENERAL INFORMATION

- The Austin Office of Sustainability operates within the Austin municipal government. It is responsible for briefing and advising Department Directors, the City Manager, Boards & Commissions, the Mayor, and City Council regarding the sustainability of proposed policies, programs, and initiatives.
- The Office also oversees the operationalization of sustainability objectives, and manages the Climate Protection Program, including education and outreach on these matters.
- The Austin Community Climate Plan (the “Plan”) was developed in response to a 2014 City Council resolution which mandated a goal of net-zero community-wide GHG emissions by 2050, or earlier. The Office guided the development of the Plan.
- The Plan took 6 months to develop. It identifies a range of specific actions targeting climate change issues, along with possible partnerships with other agencies and community actors. There are four major industry areas that are targeted: Electricity & Natural Gas, Transportation, Materials & Waste Management, and Industrial Processes.
- The Plan also has an accompanying Implementation Plan which more directly outlines specific actions to be taken by the Agency and its partners.
- Note: there is a separate plan about climate resilience, the Community Climate Plan focuses more so on GHG emissions and mitigation.

STAKEHOLDER ENGAGEMENT & PARTICIPANTS

- **Steering Committee** – This committee is comprised of Office staff, and is tasked with leading the development of the Plan. The Plan was to be developed in an open and transparent way that provided clear implementation pathways.
- **Technical Advisory Groups (“TAGs”)** – These are groups that represent the four major emitting sectors (Electricity & Natural Gas, Transportation, Materials & Waste Management, and Industrial Processes). TAGs were required to develop specific recommendations that were reviewed by the Steering Committee for feasibility, barriers to implementation, emissions reductions, and any co-benefits.
 - ♦ TAGs were comprised of Industry Professionals, Non-profit Activists, Citizen Activists, and Knowledgeable Experts (ie. academics, consultants, etc).
- **Community** – The Agency engaged in a community survey which requested that individuals from the community provide general feedback on the Draft Plan. These informed the action determination and prioritization processes.

- Stakeholder engagement was fundamental to the development of the Final Plan, and was integrated throughout the entire process. However, it was largely contained to the mandated working groups in order to limit the amount of time wasted with frivolous concerns.

DEVELOPMENT PROCESS

1. Creating a Project Management Plan

- Set dates for Steering Committee and TAG meetings (every other week over 6 months).
- Set out target dates and Plan structure.

2. Development & Engagement

- The first meetings were about background, benchmarking, understanding scope of the project, and identifying how other agencies or partners were addressing climate change issues.
- Each TAG identified industry-specific climate issues, developed a framework for addressing the problem, and brainstormed a range of actions that could be taken to address the problem.
- Identified actions were then sorted into categories based on timing (short-, medium-, and long-term actions)

3. Draft Plan

- The information generated by the TAGs was then incorporated into a single document. The document was circulated to all of the groups to ensure the correct actions were conveyed and prioritized, then comments were made.
- This was an iterative process.

4. Final Plan Adoption

- The final Plan was sent to Council for adoption.

5. Implementation

- The Office received advice that an Implementation Plan should be created directly after the adoption of the new Community Climate Plan.
- In determining who should be responsible for each action included in the Community Climate Plan, the Implementation Plan required more extensive analysis. This included a rigorous cost-benefit analysis.

P&P TOOLS

- **Waterfall Charts** – Used to envision what 2050 would look like without any action being taken. Potential actions were input into the chart to illustrate those that would have the most impact. It also helped to illustrate which actions required immediate attention.
- **Personas** – Creating different profiles for different socio-economic groups, and defining what impacts the policies and programs would have on each group.
- **Cost-benefit Analysis** – This was undertaken with respect to the development of the Implementation Plan. The analysis took into consideration cost of implementation, carbon impact, and the status of the action. The status of the action can be one of the follow: ongoing, in development, or not yet started.
 - ❖ One the status of each action was determined, they were placed on a chart to visually show which actions needed the most attention.
 - ❖ The costs and benefits assessed were primarily economic in nature (ie. direct cost savings), an avoided indirect consequences such as health, happiness, or quality of life. There was some acknowledgment of these indirect factors in a qualitative fashion, but the Agency did not feel the need to expend resources trying to quantify these.

- ❖ Most recently, the Agency is seeking to determine \$/tonne estimates on all projects, which requires significant inventory data. None of this information is published as of yet. This is also challenging because it requires budget information from a range of departments.
- The tools generally assisted in prioritizing different actions.
- The tools used relied heavily on the emissions inventory data available at the time of development. The tools also made use of the background information that is used to create the emissions inventory to determine future projections.
- No risk identification took place.

AGENCY COMMENTS

- The method selected was not mandated, but made the most sense for the Agency. It also offered flexibility to adapt throughout the process.
- In opting not to consider socio-economic or indirect impacts, the Agency felt this was a good way to establish common ground and clear targets to address.
- The planning process came down to prioritization and feasibility.
- The planning process was effective. However, challenges arose particularly with respect to the communication and justification of individual actions. The Agency found it easier to justify actions when grounded in quantifiable data.
- With respect to the stakeholder engagement process, the Agency felt that the TAG method was particularly useful in keeping the Plan development process on track, and kept the discussion productive and respectful. It created the opportunity for engaged individuals to be heard, but kept that engagement within the designated timeline.

REFERENCE MATERIALS

- Before the first interview the Austin Community Climate Plan - Implementation Plan was also reviewed.

PRELIMINARY INTERVIEW SUMMARY

Agency: Bay Area Air Quality Management District (the “Agency”)

Plan: 2017 Bay Area Clean Air Plan 2017 (the “Plan”)

Representative: Christianne Riviere, Principal Environmental Planner

Date: June 6th, 2017

Email: criviere@baaqmd.gov

Conducted via telephone (415) 749-4925

GENERAL INFORMATION

- The Plan develops a vision to 2050, and takes into consideration social, economic, and environmental health factors.
- The Plan follows a sector-based approach, which is unusual for this type of plan. Nine economic sectors were identified, and measures were grouped on that basis. The nine sectors are: stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG producers.

DEVELOPMENT PROCESS

1. Create a List of “All Feasible Measures”

- The legal basis for the Plan comes from the State, which requires air quality regions to reach certain emissions reductions over time. To do so the State requires a list of all feasible control measures that allows the region to reduce ozone by 5% per year.
- All current plans, policies, and programs, as well as new possible measures, are reviewed and entered into a database.

2. Evaluate All Measures

- The identified measures are separated into groups and distributed to applicable experts in the area. Those experts consider technical feasibility, political feasibility, cost-effectiveness, and some other factors.
- If a measure is deemed to be unfeasible, the evaluator must give a specific reason (ie. technology does not exist, already implemented, etc).
- Measures are not prioritized according to feasibility, the question is only whether they are feasible or not. All feasible measures are prioritized equally.

3. Measure Development

- Once measures are deemed to be feasible they are distributed to expert staff for further development. Each measure will be explored in depth and a report will be produced which identifies specific action, completes emissions reductions estimates, and provides a rough cost-benefit analysis.
- The assigned person will also vet partners, including finding other agencies to help engage in the measure development.

4. Stakeholder Engagement

- Draft measures are distributed to the public in summary for feedback.
- This process is iterative and happens several times before final measure are settled upon.
- Sector-based working groups were also developed for each of the nine identified sectors, and individuals assisted in developing the measures.

5. Draft Plan

6. Final Plan

- The Final Plan included two volumes: (1) Background details including health effects, emissions inventory, monitoring programs, etc; and (2) detailed measures.

P&P TOOLS

- **MPEM (“Multi-Pollutant Evaluation Method”)** – The tool provides a means to quantify the estimated benefits of individual control measures and the control strategy as a whole in protecting public health, extending the average lifespan of Bay Area residents and protecting the climate.
 - ♦ The data produced can help to compare the costs and benefits associated with particular measures. This helps prioritize those measures for implementation.
 - ♦ The model requires extensive health data including health effects/benefits of emissions reductions (in particular PM and diesel).
 - ♦ The model must be run for every control measure. It was noted that this was a challenge because data would frequently change.
- **Emissions Inventory** – Utilized heavily to project future emissions trends. It also assisted with projecting the effects of future state regulations to come into effect in the future. It was a challenge to articulate those state policies, which impacted the projections at the start.

AGENCY COMMENTS

- This model was chosen because of the increasing health concerns associated with poor air quality. Health is also part of the Agency’s mission statement, so it seemed a natural fit.
- It was noted that no agency in California prioritizes their measures, but they do create a form of ranking based on feasibility (ie. whether the action is feasible or not). If a measure is feasible, it will be incorporated into the Plan. If it is effective and has strong benefits it may possibly be implemented first, but this is not definitive.
- The only major challenge associated with the process was ensuring that data was kept up to date in order to be able to rely on the MPEM outcomes.
- It is also worth noting that there was some difficulty developing measures on a sector-specific basis, as some of these sectors are not generally controlled by the Agency.

PRELIMINARY INTERVIEW SUMMARY

Agency: Greater London Authority (the “Agency”)

Plan: The London Plan 2016

Representative: Elliot Treharne, Air Quality Manager

Date: June 14th, 2017

Email: Elliot.Treharne@london.gov.uk

Conducted via telephone +44 7966 968149

GENERAL INFORMATION

- The London Plan (the “Plan”) is a larger strategic plan for the Greater London area. This summary focuses particularly on Chapter’s 5 and 6 of the Plan (London’s Response to Climate Change & London’s Transport).
- A new Plan will likely be released at the end of July 2017. It is intended to more specifically target climate change, waste, biodiversity, etc.
- The City of London has been increasingly working on climate change and air quality for three major reasons: health impacts, inequality issues, and economic impact. There is also an underlying legal framework that compels action.
- The legal and governance frameworks are fundamentally different from those applicable to Metro Vancouver.

STAKEHOLDER ENGAGEMENT/“PARTICIPANT GROUPS”

- The actual frequency of stakeholder engagement was not heavily discussed.
- The messaging surrounding air quality and climate change is integrated into the public health system. Additionally, working together with the public health system helps to identify which measures are working.
- There are major complexities in delivering measures and changes to services, but the governance structure in London allows for ongoing partnerships with national and local governments, public bodies and agencies, private businesses and trade bodies, and voluntary and community groups.

DEVELOPMENT PROCESS AND P&P TOOLS

- The Legal Framework in which the Plan operates is extremely complex, and is partially mandated by its participation in the European Union. Generally, the Mayor is required to mandate as many actions as possible in order to achieve compliance with set standards as quickly as possible. This requires that any actions that are not duplicative **MUST** be implemented. As such, there is no formal prioritization process or development process.
 - ♦ Generally, the Plan was developed by brainstorming a range of possible actions as well as reviewing past policies and programs. Any new policies that could make a contribution to reductions were included in the Plan. There is no formal prioritization mechanism.
- There are a few mechanisms used to assist in developing policies:

- i. The notion of becoming “Air Quality Neutral”, this essentially places a cap on emissions in the next several years despite population growth;
- ii. Air Quality Fund;
- iii. Retrofitting Programs;
- iv. “Adaptation Approach” – This includes adjusting messaging that is released to the public.

AGENCY COMMENTS

- The Agency is able to take a somewhat more top-down approach to these issues.
- There are not many resource constraints as, ultimately, the Agency feels the benefit of investing in the changes will far outweigh the costs.
- Tend to be more aspirational targets, which leave specifics of implementation to the interested actor.

PRELIMINARY INTERVIEW SUMMARY

Agency: King County (the “Agency”)

Plan: [King County Strategic Climate Action Plan 2015](#)

Representative: Matt Kuharic, Senior Climate Change Specialist

Date: June 6th, 2017

Email: matt.kuharic@kingcounty.gov

Conducted via telephone (206) 477-4554

GENERAL INFORMATION

- King County covers 2,131 miles² and is surrounded by Puget Sound to the west and the Cascade Range to the east. The region expects more rain and flooding, less snowpack in the mountains lasting into summer, rising sea level along the Puget Sound shoreline and more severe droughts during summer as the climate continues changing.

STAKEHOLDER ENGAGEMENT/PARTICIPANT GROUPS

- The Agency made a marked commitment to enhancing community engagement with the process.
- They engaged:
 - ✦ 39 cities in King County;
 - ✦ The general public through online and in person meetings.
- The Agency’s partnership with cities allowed them to develop shared targets and “pathways” (actions) around how to achieve the identified goals.
- The Agency is now looking to have community partners more directly co-developing new policy and programs.

DEVELOPMENT PROCESS

1. Review Past Actions

- The current Climate Action Plan (“CAP”) builds on the 2012 and 2015 plans. It had some forward-looking climate commitments, but fewer than the current CAP, and also acted more as a summary of current actions being undertaken, rather than creating new actions. The CAP looks specifically to what the region should be doing, and structures actions with regard to existing policies, staffing, and financial resources.

2. Establish Vision/Goals/Pathways

- The CAP seeks to primarily address the question of what the county’s role is in the larger climate action picture. It creates aspirational targets, and further development of specific pathways took place in the subsequent Implementation Plan.
- Within the Agency there was a team working on plan development. Staff goal area leads were appointed, along with a partner Agency sponsor for each identified goal area. Goal areas include Transportation and Land Use, Buildings and Facilities Energy, Green Energy Implementation, Consumption and Materials Management, and Forests and Agriculture.
- Pathways were brainstormed and developed within each larger goal area.

3. Community Engagement (as above, ongoing)

4. Draft Plan

- Given the continued community and staff feedback, there were several iterations of the Draft Plan. The adopting Council also had input and suggestions after the proposed plan was presented.
- The drafting process was a 1.5 year iterative cycle.

5. Final Plan

6. Implementation

- Included more detailed considerations of who would be undertaking each pathway, costs, and specific actions.

P&P TOOLS

- **Community Scale Reductions Review** – The analysis looks at a range of factors to show the current emissions position, and uses different policy packages to show how they would impact reductions over time. The analysis was high level, but did inform the development of more specific actions.
 - The initial analysis looked to Corporate Average Fuel Efficiency Standards, Washington State Renewable Portfolio Standard, and the Washington State Energy Code. The review identified that the following reductions would have to be made in order to reach a 80% reduction by 2050:
 - i. 15% Cleaner Transportation Fuels;
 - ii. 20% Vehicle Miles Traveled Reduction;
 - iii. 25% Building Energy Use Reduction;
 - iv. 20% Increase in Renewable Electricity;
 - v. No More Coal;
 - vi. Limited New Natural Gas for Electricity.
 - Information came from the regional planning entity with respect to vehicles and energy used.
 - The tool was used early in the process to help develop pathways across different goal areas.
- **Cost-Effectiveness Analysis** – This was a pilot analysis based on a previous work done at the federal level by McKinsey & Co. It mostly looked to the cost of the County’s role in supporting climate actions. Due to time and data limitations, there were some uncertainties with respect to the potential cost of GHG reductions.
 - ♦ The data included was developed from various staff across agencies, creating projected project costs associated with different pathways. It was often challenging to accurately project possible GHG reductions.
 - ♦ It was also noted that certain measures were taken for reasons other than cost effectiveness, and could not be made to be cost effective in the near future. This limits the applicability of the analysis. Perhaps a \$/metric tonne would have been a more productive value to analyze, but this required more data than was available at the time.
- **Equity Impact Review** – It is an internally developed process and a tool to identify, evaluate, and communicate the potential impact—both positive and negative—of a policy or program on equity. An online version of the tool is available for review.
 - ♦ The tool was primarily used during the implementation process to determine which pathways may be most beneficial to address equity and social justice concerns.

- **Community-Scale GHG Changes** – This project is currently underway. The tool is intended to identify what caused changes in emissions between 2008 and 2015 (ie. population growth, energy, utilities, fuels, transit expansion, etc).
 - ♦ The Agency has identified that previous qualitative studies on this subject have not clearly identified the actual sources of change. This is an attempt to create concrete quantifiable data to determine which policies and programs may have contributed to reductions over time.
- The tools chosen were primarily used to determine the most productive actions, as well as determining cost-effective solutions. By having multiple methods to justify certain actions, there was greater buy-in to the actions.

AGENCY COMMENTS

- As alluded to above, the cost-effectiveness model posed the most challenges. The tool was able to provide some assistance with prioritizing certain actions, but it should not be the primary indicator. The Agency also questioned whether it was more appropriate to analyze the cost-effectiveness of the whole plan rather than just individual actions.

REFERENCE MATERIALS

- Please refer to a copy of the [Equity Impact Review Tool](#).

PRELIMINARY INTERVIEW SUMMARY

Agency: NSW Environmental Protection Authority (“EPA”, or the “Agency”)

Plan: Clean Air for NSW - Consultation Paper (the “Plan”)

Representative: Roger Bluett, Manager Air Policy & Alethea Morison, Acting Manager Strategic Policy and Programs

Date: June 8th, 2017

Email: roger.bluett@epa.nsw.gov.au; alethea.morison@epa.nsw.gov.au

Conducted via telephone 6129995599 Conference ID - 3186927

GENERAL INFORMATION

- The Plan has not yet been completed, and is currently in the draft/public consultation stage. This summary discusses the Plan’s development process to date.
- It mainly highlights actions emphasizing industry regulation and reduction of human health risks.
- The need for the Plan came about from an existing agreement between the Premier and former Minister for Environment, as well as the identification of seasonal air quality issues that disproportionately affect certain geographical areas (ie. dust storms, bush fires, etc). The Minister required a position statement and framework to assist the ongoing improvement of air quality over the next decade.
- Note: there are several different levels of government with interrelated roles pertaining to air quality (federal, state, and local governments). The regulatory scheme in NSW manages emissions from industrial and commercial sources.
- The Plan has identified areas for improvement, in terms of implementing national standards, as well as harmonizing standards across States and regions.
- The Plan is heavily based on existing work done over the last several years, as well as the continual improvement of evidence to support adjustment; particularly relating to wood heating.
- Currently, the EPA policies are undergoing technical review for feasibility based on Licensing Review, Industry Best Practice studies, emissions inventory assessment, and a Particle Characterization Study. The EPA intends to use a Cost-benefit analysis to justify change.
- Note: the EPA is the regulatory body in NSW, but the Ministry of Environment and Heritage conducts most of the scientific data gathering, and is in charge of managing the air quality management network in the region.

STAKEHOLDER ENGAGEMENT/“PARTICIPANT GROUPS”

- **Ongoing Engagement**
 - i. **Targeted Industry Stakeholders** – Selected sectors are identified based on particle characterization, emissions inventory, and industry best practice studies. These groups are identified as major emitters or those who are doing the most towards reaching air quality targets. Ongoing relationships are formed.
 - ii. **Standing Committees** – EPA convenes quarterly meetings with the most impacted community groups to discuss the Plan and actions.
 - iii. **Peak Environment Groups**
 - iv. **Issue Groups** – Local groups have formed to address particular issues.

v. **Academics**

vi. **Other Stakeholders**

- **Public Conference** – This will take place in two weeks’ time. It is intended to engage industry actors in industry sectors that have been identified as the largest emitters. Industry professionals, the general public, and any other interested stakeholders are invited to participate. All proposed actions and other issues will be discussed. This feedback will guide the continued development of the Plan.
 - ✦ The Consultation Paper was also released for public comment. Those who provided responses would also be invited to the conference.
- Note: the ongoing consultation process was intended to raise and discuss issues, the public conference is intended to fine-tune responses to these issues as set out in the Plan.

DEVELOPMENT PROCESS

1. Review Actions

- The advisory groups are described above, and played major role in guiding the Plan development process.

2. Identify Key Emissions Sectors

- Research has identified key sectors that impact air quality for large portions of the population.
- This helped to establish areas where control options are required to decrease exposure, and ultimately harm to human health.
- This process also included a review of air quality in relation to population, and aimed to reduce human health impacts by targeting poor air quality in high population areas.

3. Draft Plan

4. Canvas Public Response to Proposed Actions (In Progress)

- This project developed organically, and has evolved into a more structured planning process over time. The work is based heavily on what has been done in the last 15 years in relation to various particle studies.
- Though the Plan and corresponding process does not emphasize it, national regulation have played a large role in guiding the applicable air quality objectives.

P&P TOOLS

- The tools reflect a socio-economic approach to air quality, which considers a range of social, economic, and environmental factors. As noted above, there is a particular emphasis on industry and health. The tools were primarily selected to assess health concerns.
- **State-Wide Air Quality Monitoring Network** – Provides baseline air quality data for a range of criteria pollutants. This serves as the basis for most of the other work.
- **Air Emissions Inventory** – The emissions inventory is currently on 3–4 year cycles. It is a collection of anthropogenic, biogenic and geogenic data, that describes what is being emitted and where.
 - ✦ The inventory includes over 850 air pollutants. Being able to determine emissions sources assist with identifying areas that must be addressed, and where change is occurring.
- **Particle Characterization Study** – Analyzes particles by different trace elements on those particles and pins them to most likely sources (ie. organic element may point to wood heating,

sulphur points to a power station). This is an exacting way to determine sources of pollutants and changes over time (ie. seasonal change), but requires considerable data.

- **Literature Reviews** – Commissioned literature reviews on international policy and practice to assess different types of approaches before undertaking Plan development.
- **Health Research & Health Studies** – Looked to various subsections of emissions data, as certain health effects can be attributed to different sources of emissions. This helped the Agency to understand risks associated with different sources, and assisted in prioritization based on identified risks.
- **Best Practice Studies** – Worked directly with industry to determine their best practices, and how the Agency can step in to control or regulate these practices.
- **Cost-benefit Analysis** – Will analyze proposed actions and determined the potential reductions from different measures. The analysis will consider the cost of implementation, impact on health, and potential regulatory proposals to be put forward. The analysis also sheds light on which measures may be most feasible within the regulatory context, and based on limited resources.
- Note: national regulation requires the EPA to deliver on certain actions in the next 10 years, so those have been prioritized. Additionally, actions with the potential for emissions reductions in heavily populated areas, and an overall reduction in health risks are also prioritized.

AGENCY COMMENTS

- Of primary note is the need for this to be an ongoing framework that can reassess the Agency's position. The Agency is trying to take on board what would have the most significant influence on health, but it will have to continually re-evaluate over the next ten years to ensure that the most significant factors are being responded to.
- The Agency has also noted that their current process seems to be working, but the tools used can always benefit from improved data/evidence. Modellers have pushed for better modelling to provide projections about the impacts of potential measures. While modelling and projections are valuable, it is also important not to become paralyzed by the quest for a perfect data set.
- The Agency has also identified three areas that have proved to be particularly challenging:
 - i. **Transportation** – This has been a particular challenge because the EPA has no regulatory control over roads, cars, land use planning, etc. While they are able to participate, in order to determine impacts on air quality, there is little that can be done to combat poor air quality.
 - ii. **Behavioural Change** – There have been interesting perspectives shared about redirecting public messaging around certain causes of air pollution, particularly wood heaters. There is a fine line with respect to appropriate government intervention into these private decisions.
 - The Agency has attempted to enhance public engagement and understanding, and has adopted a precautionary advocacy approach.
 - The Agency has also identified an imbalance between practice and regulation. For example, a disproportionate number of people in certain areas are affected by more stringent regulations.
 - iii. **Resources** – Funding can be a major issue. The amount of resources received could have the potential to hinder policies and programs delivered upon.

REFERENCE MATERIALS

- Refer to the [NSW EPA Air Index](#).
- Please also refer to [this webpage](#), which includes regularly updated information with respect to the planning process.

PRELIMINARY INTERVIEW SUMMARY

Agency: Portland Bureau of Planning and Sustainability (the “Agency”)

Plan: City of Portland Climate Action Plan 2015

Representative: Michele Crim, Sustainability Manager

Date: June 12th, 2017

Email: michele.crim@portlandoregon.gov

Conducted via telephone (503) 823-5638

GENERAL INFORMATION

- This plan is the 4th Climate Action Plan (“CAP”) for the region, building off of the process and actions included in the 2009 CAP.
- It has a heavy emphasis on improving equitable outcomes, particularly with respect to low-income populations and communities of colour. A considerable amount of time and effort was expended to increase engagement with equity groups.
- The CAP identifies over 170 specific actions targeted at emissions reductions. Currently, 151 of those actions are either complete or on track for completion by 2020. Both the City of Portland and Multnomah County have worked together towards completing these actions.

STAKEHOLDER ENGAGEMENT/PARTICIPANT GROUPS

- All working groups were led by staff within city who would be responsible for implementing the actions associated with their respective areas of expertise. This built ongoing relationships with experts who could assist with the plans development and who would be affected by its implementation.
- **Steering Committee** – Consisted of external advisors who assisted in developing actions included in the CAP. The Committee was not a decision-making body. The Committee provided ideas and acted as a sounding board when considering more specific actions and how those actions could be implemented.
- **Equity Working Group** – The Equity Working Group comprised participants from six local community organizations focused on advancing equity, each with a different constituency and focus. The Equity Working Group provided recommendations on the CAP objectives and actions, as well as overarching priorities and guidance for implementation. In addition, a scan of the 2009 Climate Action Plan was conducted to assess equity gaps and missed opportunities, suggest metrics, and summarize best practices for integrating equity into climate plans from around the country.
 - ♦ There were 2 hour meeting every other month, and were required to conduct extensive review of every action within the plan. 60-70% of the engagement process was spent on equity considerations.
- **Technical Advisory Groups** – Ad-Hoc Technical Advisory Groups were convened with city staff experts to allow for their feedback and implementation ideas.
- **Public Comment** – The draft plan was released for public comment, and all public comments were considered.

DEVELOPMENT PROCESS

1. Set-Up Advisory Groups

- The advisory groups are described above, and played a major role in guiding the CAP development process.

2. Review Status of All 2009 Actions

- Because the current CAP was heavily based on work completed in previous plans, particularly the 2009 CAP, it was important to determine what actions were completed, ongoing, or no longer necessary. Some ongoing actions were included in the CAP, and some were removed because they were unsuccessful.
- This process was essential for determining what new actions ought to be included in the CAP.

3. Determine New Actions For Inclusion

- This was primarily done through ongoing engagement with stakeholder groups. See above for more information.

4. Draft Plan

5. Final Plan

- The CAP development process was iterative, with continuous discussion between the stakeholder committees and staff in the Agency. This made the process fluid, and kept dialogue alive. It also increased buy-in, because there was considerable effort made to ensure that all voices were heard.

P&P TOOLS

- **Sector-Based Emissions Inventory** – Calculates local emissions from energy use in vehicles, homes and businesses, and waste emissions. This inventory was most important for developing specific actions targeted at the largest sources of emissions.
 - ♦ This inventory was used early in the process to help determine emissions sources to guide the development of more specific actions.
 - ♦ To be effective the inventory required emissions information in relation to electricity, natural gas, fuel oil, kerosene, petroleum gasoline, diesel, biodiesel, landfilled solid waste, ethanol, and wastewater treatment.
- **Consumption-Based Emissions Inventory** – Takes the approach of determining the emissions from the entire life-cycle of goods. The consumption-based inventory was less important for the CAP development, as it was less exact. However, it guides other work that helps to identify the city's role in influencing consumption behaviour.
 - ♦ The Inventory required extensive information about greenhouse gas coefficients, greenhouse gas emissions, lifestyle analysis and demand, processing information, etc.
- **Carbon Budget Assumptions** – This was first used in the 2009 CAP. Objectives and actions incorporated into the CAP can be measured quantitatively. The carbon budget assumptions rely on different assumptions relating to population growth, technological improvements, and the influence of government actions.
 - ♦ The assumptions are used primarily as a general illustrative tool rather than calculating impacts to an exacting standard. It helps individuals conceptualize the types of impacts and reductions that can be achieved through different actions, and provides a sense of whether targets and objectives can be achieved.

- ◆ The assumptions were used near the end of the development process to show how different actions could achieve reductions.
- **Equity Considerations & Objectives** – The Agency identified that low-income populations and communities of colour are disproportionately impacted by climate change and corresponding measures. Equity concerns were reviewed in conjunction with the equity working group in relation to all proposed actions.
 - ◆ The Equity Working Group created nine considerations to be used in conducting assessments of CAP actions: disproportionate impacts; shared benefits; accessibility; engagement; capacity-building; alignment and partnership; relationship building; economic opportunity and staff diversity; and accountability.
 - ◆ Each action was discussed and reviewed according to the identified considerations. This was an ongoing process through the entire CAP development process.
 - ◆ Distributional equity can be quantitatively measured using outcome metrics such as demographic data, participation rates, or investment resources allocated.
- **Priority Considerations** – These were general considerations used throughout the CAP development process to assist in prioritizing which actions could/should be implemented first. The Agency particularly wanted to prioritize actions that would assist the city in making direct contribution. The considerations include:
 - i. The capacity to reduce carbon emissions;
 - ii. Preparing for and minimizing risks of climate change impacts;
 - iii. Reducing existing disparities and addressing community needs to improve equitable outcomes;
 - iv. The possible delivery of co-benefits; a
 - v. Acquiring funding through existing or potential resources; and
 - vi. Delivering results within the city and county’s sphere of influence.
- Each action was discussed in the appropriate working group in relation to the identified considerations. Those that achieve more of the considerations remained on the list for inclusion in the CAP, and others were removed.

AGENCY COMMENTS

- The CAP development process incrementally evolved over decades. No formal processes have been used, and flexibility is seen as the key to successful plan development and implementation.
 - ◆ Instead of having strict timelines it was important to allow each staff member to engage with the various Committees in their own way (ie. some had formal meetings, some had informal coffee meetings, frequency varied, etc). This allowed each staff member responsible for implementation to buy-in to the process.
 - ◆ This approach can be a bit chaotic, but the Agency felt that it worked well overall.
- The Agency promoted the idea of “Broad Ownership” internally. This meant that staff had to take ownership of the CAP, rather than the public having sole ownership of the CAP. City staff had to be happy about the measures they were implementing, otherwise nothing would get done.
- The representative had a number of comments about integrating equity considerations.
 - ◆ Through discussions with the Equity Working Group it became clear that the potential equity implications (positive or negative) of a given CAP action had more to do with how that action

was implemented than the action itself. For example, the action to plant more trees does not necessarily have equity impacts.

- ◆ plications, but decisions about where those trees are planted and who is planting those trees do. It was important to pay the members of the Equity Working Group for their time. Most equity Agency partners did not have climate change as a major issue on their agenda. As such, payment increased their capacity to engage with the issue.
- ◆ It was necessary to change the conversation. Instead of asking the Equity Working Group to talk about the proposed equity implications of technical actions, the Equity Working Group was first asked to identify their own issues or concerns. Staff then adjusted the actions accordingly.
- ◆ Having a separate space for equity conversations was essential. Despite having some equity representatives on the Steering Committee, these issues weren't adequately addressed there.

REFERENCE MATERIALS

- April 2017 Climate Action Plan Progress Report
- Equity Case Study - Climate Action Through Equity
- Please also refer to the Public Comments received during the review of the draft plan.

PRELIMINARY INTERVIEW SUMMARY

Agency: Puget Sound Air Quality Agency (the “Agency”)

Plan: 2014-2020 Strategic Plan (the “Plan”)

Representative: Andrew Greene, Director, Air Quality Programs

Date: May 30th, 2017

Email: andrewg@pscleanair.org

Conducted via telephone (206) 802-8988

GENERAL INFORMATION

- The Puget Sound Air Quality Agency is a special-purpose, regional government Agency which was created by State law in 1967. It covers four counties: King, Kitsap, Pierce, and Snohomish.
- The Agency is governed by a Board of Directors, comprised of elected officials from each of the four counties, four representatives from each of the largest cities in each county, and one representative for the public-at-large. It has 75 regular staff.
- The Agency also makes use of an Advisory Council which has representatives from various sectors: large and small business, education, transportation, health, tribal nations, fire chiefs, environmental justice groups, the environmental community, local ports, and the public-at-large.
- The Plan was finalized in 2014, and most of the work took place over 2013. Initially, the Plan was mandated to be completed in 6 months, but it took closer to a year to develop.
- It consists of an overarching vision, three broad goals, and specific actions for each goal that target specific issue identified throughout the development process.

STAKEHOLDER ENGAGEMENT/“PARTICIPANT GROUPS”

- **Board** – Functioned largely as an oversight body.
- **Steering Group** – Managed the effort and kept then project on course.
- **Staff** – Early sessions included anyone available, but some parts of the process included meetings with specific groups.
- **Management Team** - The management team included supervisors (where interested & available) and the individual in the role or Environmental Justice Champion.
- **Advisory Council** – Met on a monthly basis, and more frequently during the development process. The composition of this group was helpful because the representatives had historically engaged with the Agency. This meant that the representatives were already familiar with the work taking place. All partner agencies mentioned in the Plan also sat on the advisory council, and were therefore highly engaged in the process.
- **One-on-One Stakeholders** – Some stakeholders were identified for specific consultation, but did not form a part of the Advisory Council.
- **Note:** because of the extensive stakeholder engagement, the Agency found it challenging to keep the project on track.

DEVELOPMENT PROCESS

1. Create a Vision

- Questions responded to are general and aspirational in nature (“audacious”)
- Determining the vision required SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis and White Papers, including input from the Advisory Council.
- Each participant group had its own workshops to determine what goals should be set.
- **VISION:** All the people and natural systems in the region benefit from clean and healthy air regardless of socio-economic status or geographical location; the region does its part to protect the climate; everyone in the region plays an active role in achieving the vision.
- **GOALS:**
 - ♦ Protect public health and the environment from air pollution;
 - ♦ Become the most climate-friendly region in the US;
 - ♦ Employ the best people, policies, and practices to achieve our work.

2. Identify Issues

- Each group brainstormed a number of issues that could arise while carrying out the vision that had been determined and reaching the established goals.
- Initially there were 30 issues identified, and issue papers are written about 12-15 of these issues. Issues papers can be found at approximately page 58 of the PDF Board Packet (half way through). Those that were prioritized tended to be the “larger scope” issues that required greater attention and consideration. The guiding questions for this process were:
 - (1) For which issues could the Agency deliver the most progress towards the vision?;
 - (2) For which issues could the Agency make the greater relative contribution to the vision (ie. relative to other groups working on the same issues)?
- Issue papers were standardized, and required responses to a set range of questions:
 - i. What is the issue?
 - ii. Why is the issue important to our vision?
 - iii. Which parts of the region are affected?
 - iv. What could or should we, in particular, do about the issue in the next 7 years?
 - v. Would these actions be in alignment with our vision?
 - vi. What could long-term and short-term objectives be?
 - vii. When does work have to start?
 - viii. Who else is working on this issue?
 - ix. Do we have experience or expertise in dealing with this issue?
 - x. What unique contribution could we make?
 - xi. Would our engagement have a cross-cutting effect?
 - xii. What are the barriers to addressing this issue?
- The issue papers were discussed with each participant group and the most important issues were identified (10-12). These issues were discussed more fully, and multiple iterative drafts of the issue papers were created.

3. Draft Plan

- There were approximately 23 iterations of the initial Draft Plan. Each draft was reviewed by the participant groups and given comment.

4. Final Plan

P&P TOOLS

- No formalized P&P tools were used. The development of this Plan was based heavily on past experiences and work already underway. In some cases, the emissions inventory was relied upon to set specific targets based on future projections.
- The Plan did not include any economic analysis. It was used as a marketing tool to obtain more funding, rather than assessing funding allocations.
- The Agency did not feel it was necessary to heavily consider risks. Given that the Plan was based heavily on existing work, there were no major risks perceived.
- **SWOT Analysis** – Integrated into the vision development process and the issue prioritization process.
- **Multi-Criteria Analysis** – This was not done explicitly, but the way in which the brainstorming took place required multi-criteria considerations.

AGENCY COMMENTS

- This method of Plan development was not mandated, and was selected because it is traditional and straightforward. They were required to develop the Plan within a short timeframe, so did not have the opportunity to be experimental.
- The Plan is considered an overall success and is still used religiously to help develop annual reporting and deliverable set-up.
- The Agency appears to be on track with its targets at this time.
- A small group within the Agency recently created a Strategic Plan, which was based more on Planning than actually writing a Plan. Given more time, the Agency may use this technique to facilitate an ongoing process.

PRELIMINARY INTERVIEW SUMMARY

Agency: South Coast Air Quality Management District (“SCAQMD”)

Plan: 2016 Air Quality Management Plan

Representative: Michael A. Krause, Planning and Rules Manager

Date: June 1st, 2017

Email: mkrause@aqmd.gov

Conducted via telephone (909) 396-2590

GENERAL INFORMATION

- The SCAQMD is the air pollution control agency for all of Orange County and the urban portions of Los Angeles, Riverside and San Bernardino counties. This area of 10,743 square miles is home to over 16.8 million people (about half the population of the whole state of California).
- SCAQMD is responsible for controlling emissions primarily from stationary sources of air pollution. It is also responsible for developing the Air Quality Management Plan (“AQMP”), which serves as the blueprint to bring this area into compliance with federal and state clean air standards. The US EPA creates standards for different types of pollutants based on public health studies, which comprise thresholds to be met with respect to air quality.
- The 2016 AQMP integrates a range of control measures and implementation approaches in a cost-effective, feasible, and targeted fashion considering the co-benefits from climate change and air toxics control programs that may also produce concurrent benefits for ozone and PM2.5. The strategy is intended to act as a blueprint for achieving federal standards.
- The 2016 AQMP is the eleventh plan in the district and built upon previous work in the area. Currently, the SCAQMD has not yet complied with any of the EPA standards.
 - ♦ It is important to note that the plan is developed against the background of non-compliance. In prioritizing various strategies most consideration was placed on which strategies could provide the most productive assistance in attempting to comply with federal standards. All measures identified are deemed to be priorities, but the prioritization mechanism indicates which measures potentially should be addressed first.
 - ♦ Technical and economic feasibility are favoured.

STAKEHOLDER ENGAGEMENT/PARTICIPANT GROUPS

- The 2016 AQMP relies heavily on partnerships at the federal, state and local levels, given the different levels of control over sources of air pollution. Partners include the EPA, CARB, Southern California Association of Government (the Municipal Planning Organization which oversees transportation, municipal planning, light rail, freeways, bike lanes, etc).
- **Advisory Group** – Over 50 professionals from various areas (business, environmentalists, academia, government agencies, etc) met monthly to discuss the policies and programs under consideration. The Advisory Group met approximately 15 times during the development process.
- **Community Members** – There were approximately 10 public workshops/hearings to encourage public input. Community members were also invited to write in with comments, and over 150 comment letters were received.

- **Symposium for Control Strategy Ideas** – This was a two-day symposium where many stakeholders (including industry experts, professional consultants, government specialists, environmental and community representatives, and other stakeholders) were in attendance to hear panels discussing policy papers, and to bring wares or products to assist in meeting reductions targets. It fostered many ideas that were incorporated into the plan, and allowed for engagement with the public.
- **Direct Meetings** – Over 200 meetings were conducted directly with industry, community associations, and other agencies to provide more detail about the plan—specifically how each group may be impacted. The SCAQMD has a separate public and legislative affairs group which engages the public and arranges meetings with individual stakeholders. Planning professionals are required only to give the presentation.

DEVELOPMENT PROCESS

1. Set-up Advisory Group

- The Advisory Group guided and participated in all aspects of the plan development process.
- The Advisory Group also generated a range of policy papers (VOC, PM, Goods Movement, Passenger Transportation, Off-Road Equipment, Energy, Residences, Business Case, etc). This assisted in determining specific strategies for each area. Experts from particular sectors split into sub-groups to develop these papers.

2. Develop Emissions Inventory

- Created a base year (2012) inventory which assisted with future projections.

3. Determine Sector Growth Factors

- Worked with the Metropolitan Planning Organization to determine sector-specific growth. This process utilized the expertise of the organization to incorporate all regulations, including those effective at a date in the future, to accurately project required future emissions reductions.

4. Run Sensitivity Model

- This is essentially a calibration process which runs the photochemical grid model. It ensures that reductions would be sufficient to achieve future projections.
- The sensitivity model also helps to guide what particular actions should be included in the strategy to achieve reductions required by future standards.

5. Develop Detailed Strategy

- The strategy relates particularly to actions targeting PM2.5 and ozone reductions.
- Actions become more apparent by running the sensitivity model.
- Actions are also developed through continued discussion within the Advisory Group and State/Federal partners which target mobile sources.

6. Run Photochemical Grid Model

- The model runs with the emissions inventory and control strategy to determine attainment of federal standards over time, and determine carrying capacity.

7. Socioeconomic Considerations

- Worked with staff to comply with California Environmental Quality Act and socioeconomic teams. CEQA requires environmental impact considerations (CEQA outlines 17 particular steps).
- Includes a consideration of job impact, health benefits, etc...

8. Draft Plan

9. Final Plan

- Approved by the governing board and received legislative approval.
- Note: steps 4-9 occurred in an iterative fashion to ensure that the photochemical model would provide correct results—taking into consideration adjustments to policies and programs as the plan was developed. The Board and legislative body were regularly briefed on plan development.

P&P TOOLS

- **Integrated Plan** – Defined as one comprehensive strategy to achieve multiple pollutant standards. All strategies were considered together, rather than seeking individual strategies and outputs. This was considered more effective and efficient for both staff and stakeholders.
 - Required comprehensive information from the Sensitivity Model, Photochemical Grid Model, and emissions inventory.
- **Co-Benefits** – Assessing whether certain strategies assist in multiple pollutant reduction.
 - Required consideration of the potential impacts of each control strategy. Those strategies with more co-benefits were prioritized.
- **Cost Effectiveness** – \$/tonne reduction determines whether something is cost effective.
 - There are two ways in which the SCAQMD measures cost effectiveness: (1) control equipment v. amount of reductions; (2) cost of research and development, installation and labour, maintenance and operation, and capital cost v. amount of reductions.
 - The second measurement was requested directly from stakeholders.
- **Lifecycle Analysis** – Considers the impacts of each measures from beginning to end.
 - Required information about different options that could be used to comply with federal standards, cost to comply, and the impact differential.
- The plan includes both regulatory and incentive programs. In terms of creating better incentive programs, cost-effectiveness and life-cycle analysis were used most heavily. In some cases there would also be consideration of how certain programs or policies could most benefit disadvantaged communities. It was noted that incentive programs are helpful, because they can be developed, implemented, and adapted much more quickly than regulations.

AGENCY COMMENTS

- The tools used were selected primarily to increase efficiency for both staff and stakeholders (ie. staff in developing the strategy, and stakeholders in complying).
- The tools used are thought to increase transparency. They give detailed justifications for decisions and the clause of each strategy. There was also strong community and stakeholder engagement which increases buy-in to the plan.
- The integrated approach and cost-benefit analysis were identified as the most effective tools. They provided detailed information, risks, and impacts once completed.
- The SCAQMD suspects that incentive programs may pose the greatest challenge going forward, as it may be difficult to encourage behavioural change. With respect to the plan generally, they are unsure of its success given then it has not yet been fully implemented.
- Note – With respect to fair share emissions reductions, the term is included in the plan, but there is no consensus on the matter. This would require a strategy where, if a 45% reduction was required for NO_x, each parter (local, state, and federal) would make 45% reductions in their respective control areas. This does not tend to happen in practice and is contentious.

APPENDIX C

Follow-Up Materials & Responses

39	.....	Austin Office of Sustainability - Zach Baumer, Climate Program Manager
45	.....	Bay Area AQMD - Christianne Riviere, Principal Environmental Planner
48	.....	Greater London Authority - Elliot Treharne, Air Quality Manager*
49	.....	King County - Matt Kuharic, Senior Climate Change Specialist
51	.....	New South Wales Environmental protection Authority - Roger Bluett, Manager Air Policy & Alethea Morison, Acting Manager Strategic Policy and Programs
54	.....	Portland Bureau of Planning & Sustainability - Michele Crim, Sustainability Manager
57	.....	Puget Sound Air Quality Agency - Andrew Green, Director, Air Quality Programs
59	.....	South Coast AQMD - Michael Krause, Planning and Rules Manager

* Please note that the timeframe for follow-ups was very limited. The Greater London Authority was unable to participate in the follow-up process.

PRELIMINARY INTERVIEW FOLLOW-UP

Agency: Austin Office of Sustainability (the “Agency”)

Plan: [Austin Community Climate Plan 2015](#)

Representative: Zach Baumer, Climate Program Manager

Date: July 13, 2017

Email: zach.baumer@austintexas.gov

Conducted via email

GENERAL QUESTIONS:

1. What was the expected time frame for plan development? What was the actual time frame? If there was a difference, what was the reason for this difference?

- The expected time frame for plan development was a year, and it took a year. The Agency worked diligently to stay on schedule and committed to making the process work. This was partially driven by a resolution which directed the Agency to develop the Plan, and included a completion date.

2. Metro Vancouver often has a booth at community events to promote education, does your Agency do this as well? Is it productive?

- Yes, the Agency employs this practice, and has a staff person dedicated to outreach and presentations at community events and schools. The Agency feels it is important to be visible and provide education, but it is not really making a large difference or driving change.

3. Did you experience any bottlenecks in your plan development process? If so, what were they?

- Bottlenecks included getting started with the planning process, and getting the Agency’s staff engaged and committed. In addition, the final process of designing and laying out the document took quite a bit of time. It was a large challenge to perfect such a long document.

4. How detailed were the actions included in your Plan (ie. were they high level, requiring an implementation plan, or detailed)? Why did you choose this format, and was it successful?

- The Agency included both detailed and general actions in the Plan, as both are important and helpful. The different actions were generally distinguished by their implementation timeline. Actions to be implemented in the next three years were detailed and, in many cases, were already underway. Actions to be implemented in 2025 and beyond were much more general and aspirational. The Agency chose to be inclusive of all ideas and concepts, and the Agency’s stakeholders appreciated that.

SPECIFIC QUESTIONS:

1. Can you provide a copy of the community survey that you used?

- Please see the attached document with respect to the survey questions used. The Agency employed a consultant who helped the Agency to increase the survey response rate from 300 to over 1000, and helped to analyze the results.

2. Do you have any examples of the waterfall chart that you used?

- Examples of waterfall charts are located at pages 37 and 47 of the Plan.

3. Do you have any documents or information about how you compiled your personas?

What sorts of data did you need for this?

- Personas begin at page 16 of the Plan. To compile data for the personas the Agency held a charrette with all participating stakeholders, and did a significant amount of brainstorming. It started with a concept and all parties agreed that they did not want to have more than 10 personas. The community was then divided into groups that constituted different emissions profiles and differing abilities to take action. Central city residents have different footprints from suburban ones, renters have different attributes from homeowners, large businesses take different actions than small, etc. The Agency continued work on this until the entire participating group was able to see a reflection of everyone in the community. The Agency also ensured that they received input/perspective from one person from each persona group to learn more about their respective lives and choices. This provided raw material to work with.

COMMUNITY SURVEY - AUSTIN OFFICE OF SUSTAINABILITY

The Office of Sustainability created a 33 question survey for the Austin public in early November of 2014. The survey was mobile friendly and made available online, and was offered in both English and Spanish.

QUESTIONS:

- 1. Which of the following actions are you willing to take to reduce greenhouse gas emissions from using energy?**
 - Raise fridge temps
 - Adjust thermostats
 - Turn off lights
 - Turn off electronics
 - Lower water heater temps
 - Wash w/cold water
 - Line dry clothes
 - Use fans to cool rooms
 - Install solar panels
 - Buy renewable energy
- 2. Would you install solar panels on your home to reduce your energy use?**
- 3. You indicated you are unable or unwilling to install solar panels on your home; which choice best describes your reason?**
- 4. Would you weatherize your home (add new caulking, add insulation, seal HVAC ducts, replace leaky windows, etc.) to reduce your energy use?**
- 5. You indicated you are unable or unwilling to weatherize your home; which choice best describes your reason?**
- 6. Would you switch the light bulbs in your home to compact fluorescent light bulbs or LED light bulbs to save energy?**
- 7. You indicated you are unable or unwilling to switch the light bulbs in your home; which choice best describes your reason?**
- 8. Would you purchase energy efficient appliances, such as Energy Star appliances, to reduce energy use?**
- 9. You indicated you are unable or unwilling to purchase energy efficient appliances, which choice best describes your reason?**
- 10. Please prioritize the following energy sector-related statements in order of preference:**

- Let's use an innovative utility bill rate structure to drive conservation and encourage high energy users to reduce their energy use.
- Let's invest in as much renewable energy as possible, as long as it is affordable.
- Let's expand our energy efficiency programs so all buildings in Austin are as efficient as possible.
- Let's prioritize educational programs to teach people how to save energy at home and at work.

11. Which of the following actions would you take to reduce your greenhouse gas emissions due to transportation choices?

- Walk more
- Bike more
- Ride rail or buses
- Carpool
- Use rideshare
- Telecommute
- Adjust driving style
- Maintain your car better
- Buy an electric car

12. Would you purchase/lease an electric or hybrid vehicle?

13. You indicated you are unable or unwilling to purchase an electric or hybrid vehicle; which choice best describes your reason?

14. Would you carpool with others to work?

15. You indicated you are unable or unwilling to carpool to work; which choice best describes your reason?

16. Would you become a member of a car-share program such as Zipcar or car2go?

17. You indicated you are unable or unwilling to participate in a car-share program such as Zipcar or car2go; which choice best describes your reason?

18. Would you use a combination of walking, public transportation, and/or biking to travel to work?

19. You indicated you are unable or unwilling to use a combination of walking, public transportation, and/or biking to travel to work; which choice best describes your reason?

20. Would you use a combination of walking, public transportation, and/or biking to travel to places for personal errands or going out for fun?

- 21. You indicated you are unable or unwilling to use a combination of walking, public transportation, and biking to travel for personal errands or going out for fun; which choice best describes your reason?**
- 22. Please prioritize the following transportation sector-related statements in order of preference:**
- Let's invest more in rail and buses to give people options to get out of their cars.
 - Let's develop better incentive programs to buy electric cars.
 - Let's create a more dense Austin so that more people can walk and bike to nearby stores.
 - Let's make easier ways to carpool and telecommute to work on a regular basis.
- 23. Which of the following actions would you take to reduce greenhouse gas emissions due to materials consumption and waste creation?**
- Eat more fruit/veggies
 - Eat less meat
 - Cook more often
 - Start composting
 - Buy bulk goods
 - Shop locally
 - Buy reused goods
 - Recycle more
- 24. Would you purchase locally-raised, grass-fed meat options and local fruits/vegetables?**
- 25. You indicated you are unable or unwilling to purchase locally-raised, grass-fed meat options and local fruits/vegetables; which choice best describes your reason?**
- 26. Would you purchase more products in bulk and fewer products with excessive packaging?**
- 27. You indicated you are unable or unwilling to purchase more in bulk and fewer products with excessive packaging; which choice best describes your reason?**
- 28. Would you be willing to start composting at home?**
- 29. You indicated you are unable or unwilling to start composting at home; which choice best describes your reason?**
- 30. Would you purchase a significant portion of goods and services from businesses that use renewable energy or sell sustainably made products?**
- 31. You indicated you are unable or unwilling to purchase a significant portion of goods and services from businesses that use renewable energy or sell sustainably made products; which choice best describes your reason?**

32. Please prioritize the following materials and waste sector-related statements in order of preference:

- Let's prioritize mandatory recycling and composting for residents and businesses as soon as economically feasible.
- Let's do more as a community to promote shopping locally.
- Let's focus on promoting the purchase of reused and recycled goods and products in our community.
- Let's do more education campaigns about recycling, composting, and where and how food is produced.

33. Tell us about yourself!

- Age
- Gender
- Zip code where you live
- How long does it take you to get to work?
- Approximate annual income
- Do you rent or own?
- Is there any additional insight you would like to provide about the actions we have proposed in this survey?

**** Note that these questions are collated from a larger report including a detailed analysis of the results as conducted by a consultant. The larger report can be obtained from the Austin Office of Sustainability, and has also been retained by Metro Vancouver for further review.*

PRELIMINARY INTERVIEW FOLLOW-UP

Agency: Bay Area Air Quality Management District (the “Agency”)

Plan: 2017 Bay Area Clean Air Plan 2017 (the “Plan”)

Representative: Christianne Riviere, Principal Environmental Planner

Date: June 12, 2017

Email: criviere@baaqmd.gov

Conducted via email

GENERAL QUESTIONS:

1. What was the expected time frame for plan development? What was the actual time frame? If there was a difference, what was the reason for this difference?

- The Agency’s initial intention was to complete the planning process in approximately 1.5 years. Instead, the process took approximately 4 years. One of the main reasons for the difference was the desire to create a “Regional Climate Protection Strategy” and to make it a major feature of the Plan. Both the Regional Climate Protection Strategy and the Plan aimed to reduce ozone, PM, and TACs. The Agency struggled with how to incorporate all of these elements.
- The Agency sought to look beyond the traditional sources that it regulates (ie. stationary sources). To address these issues the Agency consulted a wide spectrum of stakeholders, and had to gain expertise on a wide variety of subjects in a very short time. The Agency developed internal and external support teams that could provide the requisite expertise, and met repeatedly with local city planning staff and professionals/experts from the nine identified economic sectors. This approach ensured that the Agency captured all the possibilities for addressing GHGs, and helped to determine the best way to integrate climate planning into the Agency’s traditional air quality planning framework.
- During the process the Air District’s rule-making moved at a very fast pace. This, in turn, impacted the planning process. New rules and ideas were being developed and adopted much more quickly than the Plan. The Draft Plan had to be continuously adjusted to capture these changes. Most notably, many new rules arose to regulate refineries. Those engaged in the planning process felt they were constantly “playing catch up” with the fast-moving rules division.

2. Metro Vancouver often has a booth at community events to promote education, does your agency do this as well? Is it productive?

- The Agency often engages with the community in this way. It is suspected that this has been particularly effective in promoting the “Spare the Air” campaign, and in helping to alleviate a great deal of the animosity towards wood smoke rules.

3. Did you experience any bottlenecks in your plan development process? If so, what were they?

- It was perceived that there were “too many cooks in the kitchen” throughout the planning process. When decisions or reviews were delayed, mass updates were required (particularly because of updated rules, as above). This took up a great deal of time.

- The Agency also had to keep abreast of other internal programs, and federal legislation and programs that impacted the speed of the process. Any information that could quickly become outdated, which was plentiful, would cause delays and subsequently trigger more delays.
- The wealth of information in the Plan became its own bottle neck. The Agency suggested that much of the Plan's background/informational components (Volume 1 of the Plan) be made available online. This would allow Volume 2, the proposed control measures, to form the Plan itself and therefore streamline the process. Allowing for Volume 1 to be updated in this way would save time in the planning process. The Agency Representative believed that the Agency had a draft of Volume 2 ready for public review nearly 1.5 years before the entire Draft Plan (including Volume 1) was completed.

4. How detailed were the actions included in your plan (ie. were they high level, requiring an implementation plan, or detailed)? Why did you choose this format, and was it successful?

- The details vary by measure. There are 85 separate control measures, and a number of further study measures (approximately 20).
- Study measures are the least detailed, as they are just a presentation of ideas that will be studied at a later date.
- The 85 control measures varied in detail, depending on the level of certainty as to what action the Agency would take. In cases where there was high level of uncertainty the action could be more vague. For example, such actions could include things like meetings with relevant partners and stakeholders to better understand issue, or to determine the value that the air district could provide. For other measures, particularly those pertaining to incentives, capital projects, transportation projects, and rules, the actions are highly specific. Specificity was easy to achieve when there was sufficient certainty with respect to the action that would be taken. This did become an issue if the specified action was changed during the planning process, and this did occur with many stationary source and rules-related measures.
- The Representative did not believe that the Agency consciously or strategically selected this format at the outset. Control measures were continually drafted and re-drafted, as had been done in the past. Air quality plans, especially state mandated plans, and the State Implementation Plans, required specificity. The specific action that will be taken, including the control technology to reduce emissions, costs, etc. must be described in the Plan. This tradition was carried forward in the Clean Air Plan.

SPECIFIC QUESTIONS:

- 1. Can you provide more details on the Multi-pollutant Evaluation Method, or MPEM (ie. data used, how you set it up, etc...)?**
 - See Appendix C of the Clean Air Plan, which contains numerous details on the MPEM. The Representative is also willing to put Metro Vancouver in contact with the statistician who created the model.
- 2. Are you able to comment more specifically on the structure of the feasibility review?**
 - The feasibility exercise was an informal process. The various staff members reviewing the control measures made a decision, based on their professional judgement and/or technical expertise, as to whether or not there were technical, political, or other reasons for rejecting a new idea. If a reviewer rejected a measure, they had to note the reason in the Agency database and were asked to “explain” their reasoning. The Agency database was a Microsoft Access database, which was created to keep notes on all the control measures. This way, rejected ideas could be reviewed and reviewers could clarify their position if necessary. In some cases, the initial reviewer’s rejection was bypassed and the idea included for further consideration.
 - The database was helpful at the end of the planning process because it was then possible to report how many ideas were initially considered, and how many ideas were rejected (and why). The majority of rejections were due to BAAQMD already having implemented a similar rule or program.

PRELIMINARY INTERVIEW FOLLOW-UP

Agency: Greater London Authority (the “Agency”)

Plan: The London Plan 2016

Representative: Elliot Treharne, Air Quality Manager

Date: Not Completed.

Email: Elliot.Treharne@london.gov.uk

Conducted via email

GENERAL QUESTIONS:

1. What was the expected time frame for plan development? What was the actual time frame? If there was a difference, what was the reason for this difference?
2. Metro Vancouver often has a booth at community events to promote education, does your agency do this as well? Is it productive?
3. Did you experience any bottlenecks in your plan development process? If so, what were they?
4. How detailed were the actions included in your plan (ie. were they high level, requiring an implementation plan, or detailed)?. Why did you choose this format, and was it successful?
 - Not relevant. They are higher level actions, but community partners or other levels of government are generally responsible for specific implementation.

SPECIFIC QUESTIONS:

1. Where does funding come from for the Air Quality Fund?
2. Can you elaborate further on what the “Adaptation Approach” means?
3. What sorts of considerations do you use to formulate your public messaging?

**This follow-up interview was not completed due to time constraints.*

PRELIMINARY INTERVIEW FOLLOW-UP

Agency: King County (the “Agency”)

Plan: [King County Strategic Climate Action Plan 2015](#)

Representative: Matt Kuharic, Senior Climate Change Specialist

Date: August 1, 2017

Email: matt.kuharic@kingcounty.gov

Conducted via email

GENERAL QUESTIONS:

- 1. What was the expected time frame for plan development? What was the actual time frame? If there was a difference, what was the reason for this difference?**
 - The planning and drafting process took approximately 1.5 years to complete. This was the intended timeframe from the outset.
- 2. Metro Vancouver often has a booth at community events to promote education, does your agency do this as well? Is it productive?**
 - The agency occasionally uses booths for climate outreach, but this is infrequent. Booths are more common for specific programs, such as recycling or commute trip reduction, and these tend to be much more productive overall.
- 3. Did you experience any bottlenecks in your plan development process? If so, what were they?**
 - The Agency has not noted any major bottlenecks in the plan development process, as it was completed within the desired timeframe.
- 4. How detailed were the actions included in your plan (ie. were they high level, requiring an implementation plan, or detailed)? Why did you choose this format, and was it successful?**
 - The Strategic Plan includes high level goals/objectives/actions. An implementation plan was created after the completion of the Strategic Plan to outline more specific details. Generally, the Plan includes high level actions to provide a basic picture of what it will take to achieve overarching GhG reduction goals.

SPECIFIC QUESTIONS:

- 1. When conducting your cost-effectiveness analysis, how are you assessing cost (ie. economic cost, cost to the agency, etc.)? Are you considering each action individually, or the plan in its entirety?**
 - The Agency considers specific actions individually, and usually assesses the cost of implementation by considering several specific actions individually.
- 2. Are you able to provide more information about your Community-scale GhG tool? What types of data are you using for this?**
 - This tool is still in development. Data used includes information from past GhG inventories. More information about the inventory process can be found at: <http://www.kingcounty.gov/>

[services/environment/climate/strategies/emissions-inventories.aspx](#). There are a range of different methodologies used. The Greenhouse Gas Tracking Framework for King County: 2010 Update contains more details regarding the core emissions tracked.

PRELIMINARY INTERVIEW FOLLOW-UP

Agency: NSW Environmental Protection Authority (“EPA”, or the “Agency”)

Plan: Clean Air for NSW - Consultation Paper (the “Plan”)

Representative: Roger Bluett, Manager Air Policy & Alethea Morison, Acting Manager Strategic Policy and Programs

Date: July 28, 2017

Email: roger.bluett@epa.nsw.gov.au; alethea.morison@epa.nsw.gov.au

Conducted via email

GENERAL QUESTIONS:

1. What is the expected time frame for plan development? Are you on track? If there is a difference, what was the reason for this difference?

- Note: the NSW plan is currently in the development stages only.
- The EPA is working towards having the Clean Air for NSW 10-year air quality strategy ready for Government consideration by late 2017/early 2018. The time frame has moved back from the original date proposed. This was because approval of the major stakeholder consultation event was delayed, and the timeframe as a whole had to be moved back to allow for meaningful consideration of all stakeholder comments.

2. Metro Vancouver often has a booth at community events to promote education, does your agency do this as well? Is it productive?

- The NSW EPA uses a range of channels to engage with stakeholders at different times throughout the year. For example, the information an ordinary community member may seek from the EPA at a public meeting or community event will vary from the sorts of information that a local council officer, a researcher, or an employee from one of the many NSW-licensed industrial sites may need. Using a variety of communication channels enables the Agency to be timely and flexible with responses, while also ensuring the information is targeted and meets the specific needs of any particular stakeholder or group. Agency-wide communication channels can include website information, community education campaigns, newsletters, Twitter and Facebook posts, advertising campaigns, and stakeholder workshops.
- The NSW EPA had displays and materials suitable for a booth at the Clean Air Summit, but generally do not use booths to promote and communicate a high level strategy. Communicating high-level strategies can be too resource-intensive, particularly because the target stakeholder group is the entire NSW population. However, booths have been used by regional offices on occasion to discuss local issues and inform local communities. They are also used by other NSW agencies (eg. transport agencies in areas where new infrastructure is being built).

3. Have you experienced any bottlenecks in your plan development process? If so, what were they?

- Clean Air for NSW is a larger government strategy so coordinating the work, plans and goals of multiple government agencies, as well as incorporating ongoing work by scientists, independent experts and researchers, are challenging. High level government approval is

required for major strategies, and raises potential for delays because the government may prioritize the consideration of other proposals. The government also needs to be satisfied that requirements of central government agencies such as the Treasury have been fully met.

- In this case, the government has requested that the Clean Air for NSW consultation paper be submitted with other major proposals relevant to air, so that they can be considered together. This means that any change to, or issue with, one proposal may delay the entire package.
- 4. How detailed will actions be when included in your plan (ie. were they high level, requiring an implementation plan, or detailed)? Why did you choose this format, and do you think it will be successful?**
- The EPA has identified that it is important that the final strategy includes a mix of both high-level strategic goals and specific actions. The final document is proposed to present a suite of specific actions, but in very succinct form. The mix of goals and actions embedded within a long-term, strategic framework will allow the different agencies and groups responsible to target specific resources to address key areas of concern, while also allowing for flexibility and adaptability. It is important to leave room for change, as the Agency's understanding of air quality science and impacts will inevitably evolve and the monitoring network is projected to expand over the next 10 years.

SPECIFIC QUESTIONS:

1. Can you provide more details about how you conduct your particle characterization study? What sorts of data do you use?

- The NSW EPA has partnered with other Government agencies and academic research organizations to conduct three particle characterization studies:
 - i. **Upper Hunter** – 1 year of sampling in 2012 Upper Hunter Fine Particle Characterization Study;
 - ii. **Lower Hunter** – 1 year of sampling 2013-2014 Lower Hunter Particle Characterization Study;
 - iii. **Sydney** – 15 years of sampling 2000-2014 Sydney Particle Characterization Study.
- For the Upper and Lower Hunter particle characterization studies, air particle samples were collected for 24 hours 1 day in 3, for a year. They were analyzed for organic and inorganic chemical constituents. The chemical data was then source apportioned with a statistical method called Positive Matrix Factorization (PMF), and attributed to sources in categories (i.e. industry or wood smoke).
- The Sydney Particle Characterization Study benefited from a 15-year air particle sample set collected by a local academic researcher at a nuclear science research organization, which was analyzed for inorganic species using nuclear methods (ion beam analysis methods). The data were then source apportioned using PMF.

2. Do you have any further details on the success of the public conference that you held?

- The NSW Clean Air Summit was held on June 27 2017, and was successful in bringing together decision-makers, experts and stakeholders, and promoting broad discussion of key

air issues and how they can be addressed. The Summit brought together over 300 representatives from across industry, community and environment groups, academia, and government to work towards improving air quality across NSW.

- Key elements in the Summit's success were the caliber and expertise of the speakers (such as health and air science experts), having an excellent and experienced facilitator, and having a team committed to ensuring the event was prepared meticulously and ran seamlessly. This created a space in which different views could be heard and respected.
- The Summit included wide-ranging discussion that demonstrated the important role that air quality plays with respect to the environment, society, health and lifestyles. Some of the issues discussed were domestic wood heating, hazard reduction burns (prescribed landscape fires), transport emissions and pollution from coal mines and other industries.
- The Summit was opened by the NSW Minister for the Environment, the Hon. Gabrielle Upton MP who announced an expansion to the NSW air quality monitoring network to include additional regional and urban sites and an expansion of the NSW DustWatch Network to include the monitoring of PM10 and PM2.5 particles and new stations located in additional regional centres, from 1 January 2018. Papers and speakers' presentations from the Summit are now available on the EPA website.

PRELIMINARY INTERVIEW FOLLOW-UP

Agency: Portland Bureau of Planning and Sustainability (the “Agency”)

Plan: City of Portland Climate Action Plan 2015

Representative: Michele Crim, Sustainability Manager

Date: July 14, 2017

Email: michele.crim@portlandoregon.gov

Conducted via email

GENERAL QUESTIONS:

1. What was the expected time frame for plan development? What was the actual time frame? If there was a difference, what was the reason for this difference?

- The Plan was supposed to be done by the end of 2013, but was not completed until June 2015. The reasoning is complicated but was primarily because the Agency wanted to: (1) incorporate a more robust look at adaptation/preparation and that work was wrapping up in 2014 (a climate adaptation plan was adopted in Oct 2014); (2) include a consumption-based emissions inventory and that work was still underway; and (3) comprehensively incorporate equity, which required additional time (this is further discussed in the Case Study on the Equity Working Group). While there was delay in creating an updated plan, the final product was comprehensive and robust, and the delay was ultimately worth it.

2. Metro Vancouver often has a booth at community events to promote education, does your agency do this as well? Is it productive?

- The Agency often has a table at events, but not about the climate action plan specifically. Issues highlighted are usually more relevant to the community (ie. recycling, composting, reducing food waste, transportation options, etc). Tables may also address specific questions or issues that require public response/feedback (for example: do you think this park should have a mountain bike trail?).

3. Did you experience any bottlenecks in your plan development process? If so, what were they? I note that you already commented on the equity working group issues.

- See question 1 – these were the primary bottle necks. The equity working group also had its own hang-ups as the process got underway (ie. the communication issues experienced, and subsequent re-framing of the discussion).

4. How detailed were the actions included in your plan (ie. were they high level, requiring an implementation plan, or detailed)? Why did you choose this format, and was it successful?

- The actions were somewhat detailed, but didn’t include a great deal of specific information about implementation.
- This was successful for two reasons: (1) laying out implementation details for each of the actions would have taken years (there are nearly 200 actions); and (2) by not including implementation details the Agency had the flexibility to adjust their implementation approach as each phase came into effect. It is impossible to know exactly how something

should be implemented until the opportunity for implementation arises, as technology, environment, resources, etc. can change drastically over time.

- Actions that had a significant equity benefit or burden would have language added that was intended to guide implementation. Actions marked with “E” (for equity) in the plan tend to have more direction about how implementation should be approached.

SPECIFIC QUESTIONS:

1. Who was on the steering committee? I note that they were “external advisors”, but can you please provide more details about this?

- Faduma Ali, Groundwork Portland; John Carroll, Carroll Investments; Angus Duncan, Bonneville Environmental Foundation and Oregon Global Warming Commission; Andrea Durbin, Oregon Environmental Council; Jonathan Fink, Portland State University Research and Strategic Partnerships; Laura Gephart, Columbia River Inter-Tribal Fish Commission; Ann Gravatt, Climate Solutions; Brendon Haggerty, Oregon Health Authority; Carrie Hearne, Climate Solutions; Mike Houck, Urban Greenspaces Institute and Portland Planning and Sustainability Commission; Tom Kelly, Neil Kelly Inc.; John MacArthur, TREC, Portland State University; Guillermo Maciel, Former Policy Advisor, Multnomah County Chair’s Office; Holly Meyer, NW Natural; Linda Nettekoven, Neighborhood Advocate, Retired Community Health Professional; Jonathan Ostar, OPAL Environmental Justice Oregon; Chris Smith, Portland Planning and Sustainability Commission; Kent Snyder, Community Forest Products, International Sustainable Ventures, American Leadership Forum, Green Electronics Council; Douglas Tsoi, Multnomah County Advisory Committee on Sustainability and Innovation; Amy Qui, Lincoln High School Student

2. Can you provide some more information about the type of work that the consumption-based inventory is used for? Additionally, can you provide any information about the types of data used for this?

- Appendix 4 of the CAP (located at page 156) provides additional information on the consumption-based inventory (data used, etc). The Agency is still trying to determine how this information will be used, but they intend to use it mostly to inform outreach and education (ie. assisting the community to understand how consumption choices impact carbon emissions). Mostly, it will inform outreach and education – helping the community understand how consumption choices impact carbon emissions. The types of issues that may be engaged with are outlined on pages 36-41 of the CAP, but this engagement is not fully underway yet.

3. Please comment on how the equity considerations helped you to prioritize. Did you find that throughout the equity process the nine equity considerations caused any actions to be removed from the process?

- Equity work did not cause actions to be removed from the Plan. However, the equity considerations did often cause actions to be modified or clarified in order to better incorporate those considerations, and clarify implementation expectations. For example, action 1H (page 65 of the CAP) was modified to incorporate implementation expectations

around who benefits from carbon pricing work. The considerations also enabled the Agency to include some actions that might not have made the top of the list from a carbon perspective, but were important from an equity perspective and had a link to carbon. For example, action 4Q ([page 81 of the CAP](#)), didn't have 4Qc regarding inclusionary zoning legislation initially. The equity considerations helped to make the case for including that in the final plan.

PRELIMINARY INTERVIEW FOLLOW-UP

Agency: Puget Sound Air Quality Agency

Plan: 2014-2020 Strategic Plan (the “Plan”)

Representative: Andrew Greene, Director, Air Quality Programs

Date: July 28, 2017

Email: andrewg@pscleanair.org

Conducted via email

GENERAL QUESTIONS:

- 1. What was the expected time frame for plan development? What was the actual time frame? If there was a difference, what was the reason for this difference?**
 - After initial scoping, the planning process was scheduled to take about 10 months. The process actually took about 12 months. This was because it took slightly longer than expected to achieve consensus on some issues.
- 2. Metro Vancouver often has a booth at community events to promote education, does your agency do this as well? Is it productive?**
 - The Agency will utilize booths in some specific targeted communities. It believes it is effective in educating the population and creating public buy-in for various policies and programs, but does not measure the actual effect in any way.
- 3. Did you experience any bottlenecks in your plan development process? If so, what were they?**
 - The process made use of multiple issue papers. At a certain point, the Agency realized that it would not have time to present all of the issues and issue papers to the Advisory Council and Board. In order to avoid serious bottlenecks, the issues were prioritized at staff level and only those were presented to the Advisory Council and Board.
- 4. How detailed were the actions included in your plan (ie. were they high level, requiring an implementation plan, or detailed)? Why did you choose this format, and was it successful?**
 - Actions are somewhat detailed, but do not include information about specific implementation. This was primarily due to the short development timeframe. The Agency also wanted the plan to endure over a 7-year period and not become obsolete. It feels this has been successful.
 - In terms of specific implementation, the Agency sets out annual “deliverables” each year.

SPECIFIC QUESTIONS:

- 1. Does the plan include GHGs?**
 - Yes. GHGs are included in Goal 2, Objective 2.1 of the Plan (“Become the most climate friendly region in the United States”). Objective 2.1 relates to reducing emissions from transportation, and intends to return to 1990 levels by 2020. The agency seeks to do this by incorporating zero-emission vehicles into public and private fleets (10% by 2016).

2. Are you able to provide an example issue paper, and the structure used?

- Issues papers can be found at approximately [page 58 of the PDF Board Packet](#) (half way through).

PRELIMINARY INTERVIEW FOLLOW-UP

Agency: South Coast Air Quality Management District (the “Agency”)

Plan: [2016 Air Quality Management Plan](#)

Representative: Michael A. Krause, Planning and Rules Manager

Date: July 28, 2017

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Conducted via email

GENERAL QUESTIONS:

- 1. What was the expected time frame for plan development? What was the actual time frame? If there was a difference, what was the reason for this difference?**
 - The Agency usually takes 3 years for plan development, but ultimately it ended up being closer to 4 years before approval. The timing depends on a number of factors – in this case, the state modified the emissions inventory which can affected modelling, strategy, etc. Each change requires public input, and sometimes more modifications in reaction to the change. In addition, politicians also weigh in and that can delay the approval schedule.
- 2. Metro Vancouver often has a booth at community events to promote education, does your agency do this as well? Is it productive?**
 - The Agency has a Public Affairs department that handles all outreach, including community meetings, conferences, and displays like booths. We find all these productive for different reasons.
- 3. Did you experience any bottlenecks in your plan development process? If so, what were they?**
 - The Plan depends on a lot of outside input, over which the Agency has no control (for example: the state and federal emission reduction strategy). These things tend to cause bottlenecks and put the planning process behind schedule. For the current plan, the local Metropolitan Planning Organization (SCAG) was approving a Regional Transportation Plan the same year as the Air Quality Management Plan, which meant the Agency was not able to obtain data for baseline emissions until shortly before the Plan was scheduled for approval.
- 4. How detailed were the actions included in your plan (ie. were they high level, requiring an implementation plan, or detailed)? Why did you choose this format, and was it successful?**
 - The Plan contains relatively detailed actions. The Agency believes that the more detail that can provide up front, especially regarding the overall vision for the control strategy, the better the input will be. This also creates more specific direction for rule-makers when they start to develop rules on each action. It also noted that the development of the control measures/ actions was an integrated process, through which stakeholders and the public we able to decide whether actions should be detailed or flexible.

SPECIFIC QUESTIONS:

1. Does the plan include GHG reductions?

- The focus and goal of the Plan is to meet the federal criteria pollutant standards, not GHGs. However, the Agency has found that there can be co-benefits to GHG reduction when reducing NOx emission sources (and vice versa). Thus, it did include some measures that reflect those co-benefits, and thereby impact GHGs.

2. What is the cost-effectiveness threshold that you abide by?

- The Agency abides by the following cost-effectiveness threshold: \$50,000 per ton of NOx reductions and \$30,000 per ton of VOC reductions

3. In measuring the success of incentive programs are there any tools that you use?

- The Agency is required to develop guidelines that abide by US EPA criteria. This means that incentive programs must prove to be quantifiable, surplus (above and beyond regulation), permanent, and enforceable. In addition, the programs need to represent a federally enforceable commitment, which is usually handled by a commitment from our Board (for example: through a Resolution) that the money will be available, emission reductions tracked, and any shortfall in money or emission reductions will be made up.

4. What are the 17 steps in CEQA?

- They are technically not “steps” but rather environmental impact areas that need to be evaluated as a result of implementing a project. The Agency achieved this by implementing the Air Quality Management Plan. The 17 areas are aesthetics, agriculture, air quality, greenhouse gases, biological resources, cultural resources, energy, geology, hazards, hydrology, land use/planning, mineral resources, noise, population/housing, recreation, solid waste and transportation.