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Developing a Usable Toxics Inventory for the State of California

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I am writing to submit comments on the development of an emissions inventory for stationary sources of hazardous air pollutants in California and the reporting of emissions data in the context of the development of the Criteria and Toxics Emissions Reporting Regulation [i] by the Greenhouse Gas and Toxics Emission Inventory Branch within the Air Quality Planning and Science Division [ii] of the California Air Resources Board (ARB) staff.

I appreciate the efforts of the ARB staff and the Branch to engage with the stakeholders on this important project, including the public workshops and informal discussions. These efforts have enhanced my understanding of the task before us and the options available. I also appreciate the willingness of the Branch to consider issues raised by stakeholders and to conduct its own assessments about where we are.

I previously submitted comments for the first round of workshops in May and June, and those comments remain pertinent, so I incorporate them here again. You posted them on your web page for those workshops, so you can find them there. [iii]

I raised these points in the second round of public workshops but am submitting them for clarity. These comments are about the development of the inventory as a valuable data source.

Thank you for your consideration of these comments.

1. The inventory needs to be complete and to be populated with reliable data

There is no value to an inventory with unsubstantiated data, even if it is the "best available." The inventory should be populated with data that has been substantiated, even if this takes a couple of years to do. (This topic is addressed more broadly in my previous comments.) If you want to test reporting and design elements, I would recommend doing a prototype and testing that. This is usually a good idea anyway.

2. Standardized approaches are needed but accuracy is just as important

One of the important steps that the Branch staff have taken is to understand the different ways that air districts are approaching air toxics. Each district has their own approach to both large and small issues. These approaches need to be standardized.

However, there is no value to standardizing to poor or unsubstantiated approaches. We need good, reliable approaches as much as standard ones. The conceptualization of the project should incorporate principles of high quality practices equally with standardized ones.

3. It is important to consider the inventory as a dataset to analyze to answer questions

Part of the impetus for a better inventory is to be able to answer key questions in a systematic way. These questions include whether cap and trade policies increase emissions in disadvantaged communities; whether climate actions create health co-benefits and if so, where; how various policies being implemented at the same time, as is occurring, will affect the distribution of pollution and impacts on health; and whether climate and air pollution policies are succeeding as many millions or billions of dollars are being spent.

The ARB and the State have recognized the importance of providing support for answering such questions. [iv] The inventories, including those for criteria pollutants and greenhouse gases, will be part of this. So, the inventories must be understood to be data sources for analysis.

This means that they must be designed and implemented with an eye toward providing consistent, comparable data across time and space, so that systematic and statistically sound analysis can be done. It is essential to avoid setting bombs in the data by creating discontinuities that make comparisons invalid.

This should be part of the design and one of the aspects that is considered by experts in data science, as well as air pollution. It would be a colossal waste of money to build an inventory that cannot be used to answer the key questions articulated through legislative action, agency analysis, and public input.

4. It is important to understand the inventory as having users from multipole sectors

The emissions inventory is sometimes viewed as the property of the air pollution agencies. It is not. It is public information that the public needs to be able to access for multiple purposes. The Branch has pointed this out in its presentations, and I appreciate that.

The design for the inventory should incorporate a process to identify and address the needs of users including those in the public interest, community, and research sectors. This is a standard practice in data base design and development that could vastly increase the value of the resource.

5. It is important to design the inventory to be able to be "overlaid" with other data sources to allow for cross-media analysis.

Though the Cal EPA is organized by media, so some people only work on air while others only work on water, for example, pollution does not respect these boundaries. People can be impacted by pollutants from multiple media originating at a single source. These are seldom or never addressed by the regulatory agencies. As a first step, this database, along with others developed or managed by Cal EPA, should be designed to be able to be viewed together. This is done by creating consistent methods to locate facilities and their associated activities in space (and in time) and to identity the data attributes that are relevant. Cal EPA needs to adopt consistent ways to identify facilities, pollutants, locations, and so on.

This then allows different data to be linked using available tools as well as any tools that ARB or Cal EPA builds. CalEnviroScreen is a particularly important such effort, and the inventory data should be able to be overlaid to CalEnviroScreen.

Addressing these issues within the ARB staff and then across Cal EPA entities is important to bring the data resources into the 21st century and to achieve the best return on the investment of public funds.

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[i] https://www.arb.ca.gov/ei/ctr/ctr-regulation/ctr-regulation

[ii] https://www.arb.ca.gov/html/org/orgaqpsd.htm

[iii] https://www.arb.ca.gov/ei/ctr/ctr-regulation/ctr-regulation-comments.htm

[iv] One important example is the resolution adopted by the Air Resources Board members to approved the 2017 Scoping Plan. State of California. Air Resources Board. 2017 Climate Change Scoping Plan Update. Resolution 17-46. December 14, 2017. Agenda Item. 17-21-1. Accessed August 20, 2018. https://www.arb.ca.gov/board/res/2017/res17-46.pdf