



City Club *of* Portland

Good citizens are the riches of a city

AIR QUALITY REGULATION IN THE PORTLAND METROPOLITAN AREA

**Comprehensive Study Charge
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**Approved for Study
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**City Club of Portland
901 SW Washington St.
Portland, OR 97205
(503) 228-7231
tony@pdxcityclub.org**

BACKGROUND

In the past two years, alarming news articles have increased public concern about air pollution in the Portland Metro Area, especially as it compares to other metropolitan areas. At first look, the Environmental Protection Agency's National Scale Air Toxics Assessment (NATA) seems to indicate that Oregon has the third largest population in the country at risk of excess cancer due to all sources of toxic air pollution.¹ Those concerns are bolstered by media reports such as the *USA Today's* 2005 series on industrial pollution that placed 35 Portland area schools in so-called industrial "toxic hot spots."² While *USA Today* is clearly not a credible scientific source, the report raised concern in the minds of many Portland residents.

However, even the EPA itself warns against using its NATA data to do state by state comparisons – because different states don't measure the same causes of pollution in the same way, such comparisons may lead to misleading results. In fact, the EPA indicated that one reason the Portland Metro Area fares so poorly in side by side comparisons with other states is that Oregon is actually more proactive than other states in data gathering.³ More accurate and comprehensive data might imply that Oregon's air quality is worse, when in fact, Oregon simply has more information than other states. Despite these explanations, however, many are not comforted when news reports describe Portland's air quality as the seventh worst in the nation. Some believe that the EPA is, in fact, under-reporting the potential risks.

On the other hand, stricter federal emissions standards, increasingly strict state standards, and the impending implementation of benzene refinery standards are evidence of effective regulatory efforts to reduce regional air pollution. Oregon Department of Environmental Quality (DEQ)'s Air Toxics program data confirm that levels of smog causing pollutants have trended downward due to enforcement of federal programs.⁴ Community advocates⁵ acknowledge those gains but point to DEQ modeling results that

¹ Environmental Protection Agency. 2011. *National Air Toxics Assessments*. <http://www.epa.gov/ttn/atw/natamain/>

² USA Today. 2009. *The Smokestack Effect: Toxic Air and America's Schools*. <http://content.usatoday.com/news/nation/environment/smokestack/index>

³ Interview with Paul Koprowsky, Air Quality Coordinator, EPA, March 29, 2011.

⁴ State of Oregon, Department of Environmental Quality. 2010. *Oregon Air Quality Data Summaries*. www.deq.state.or.us/aq/forms/2010annualReport.pdf.

⁵ This charge summarizes comments from many sources using the terms "community advocates", referring to members or organizers of neighborhood associations or groups that promote environmental or public health issues, or "some" referring both to community advocates and academics, commentators, analysts and other individuals. While the study committee will need to insert specific sources and references in the research report, the charge writing committee feels that this is not essential in the stating the charge.

forecast all census tracts in Oregon will exceed health based benchmarks for several air toxicants linked to cancer and other disease by 2017 as evidence that air pollution remains at unhealthy levels.⁶

These disconnects just begin to scratch the surface of the complex issue of air quality. Following are other key contributors to apparent contradictions, disagreements, misunderstanding, and mistrust that accompany this complicated issue. Oregon has indeed been ahead of the national curve in addressing air quality issues, and Oregon has the opportunity to again be ahead of the curve in tackling the related issues that can overshadow the technical data on air pollution and hamper decision-making and action.

Difficulty in Interpreting and Comparing Data

Air quality data are extremely difficult for the public to decipher. For industrial pollution alone there are a wide range of programs and reporting requirements, each with its own set of criteria for data development, and which often rely on self-reporting. Comparing one data set, such as that required by the federal government, to another, such as that required by the state, is like comparing apples to oranges. Regulatory agencies and regulated industry often reach one conclusion and the community advocates another – leading both sides to feel marginalized and misunderstood.

Complexity of Pollutant Categories

Community understanding breaks down even more when the public and agencies begin to talk about various types of air pollutants. Criteria pollutants, hazardous air pollution, toxics, ozone precursors, greenhouse gases, etc. The public is concerned about air pollution in general, and most people do not distinguish between types and categories, while regulatory agencies and regulated industries think and talk in terms of specific pollutants. As a result, the public and agencies can find themselves talking past one another.

Sometimes the problem is that there are true differences in opinion. But often, factions are simply not talking about the same things, or are basing their viewpoints on different assumptions and different philosophical frameworks.

Complexity in Data Generation Types and Outcomes

The general public does not distinguish between various types of data generation for identifying air pollution levels. It understandably wants to know, “what’s in the air, and is it going to harm me?” The question seems simple enough, but the answer is far from easy or straightforward.

⁶ State of Oregon, Department of Environmental Quality. 2010. *Overview of 2017 Emissions Inventory Changes*. <http://www.deq.state.or.us/aq/toxics/docs/pats/2017eiChanges.pdf>.

Monitoring and modeling are two methods of identifying levels of pollutants in the air. Monitoring measures the actual concentration of specific pollutants in the air. However, monitoring is very expensive, requires sophisticated equipment, and must be conducted over periods of time to account for changes in air quality.

Modeling is far less expensive, but it is a computer estimate relying on an array of assumptions. Modeling is designed as a screening method to detect potential problems. The models tend to include wide margins for safety built into the model, so that any errors are on the side of safety.

Computer *modeling* of industrial pollution was the basis of the 2005 *USA Today* series on industrial pollution and threats to school children. As *USA Today* suggested, EPA conducted follow-up *monitoring* on sample schools nationwide. While almost all of the *monitoring* showed pollution levels much lower than what the EPA considers harmful, some community advocates, including those in Portland, did not believe the EPA's monitoring effectively assessed risk of students' exposure to toxic air pollution. DEQ subsequently attempted to determine whether EPA's school air monitoring confirmed or challenged the state's understanding of toxic air pollution in schools, but found that it was impossible to compare the EPA's data to the DEQ's own data. These conflicting standards and approaches to data gathering are another hurdle in understanding air quality issues.

Complexity in the Regulatory System

The air quality regulatory system consists of multiple state and federal agencies implementing complex regulatory rules that are constantly changing. There is a range of programs at both the state and federal level that address air pollutant groups – sometimes overlapping, and sometimes not. Sometimes a federal program is administered by DEQ, so the program appears to be a DEQ initiative when it is a federally mandated regulation. In short, the regulatory system can be daunting to understand, and even more daunting to work with, particularly with funding shortfalls that have reduced agency personnel to bare bones levels.

Finally, an added complication arises from the fact that states implement federally funded programs, so a substantial portion of state agencies' budgets come from EPA, and those funds are outside of state discretion and control. Much of DEQ's budget is used to implement federal programs, as is reflected by the fact that much of its revenue comes from fees paid by sources of pollution under federal regulations.

Establishing Funding Priorities Based on Risk

EPA conducted a study demonstrating that only 10 percent of its funding went to addressing the risks that EPA determined were the biggest potential threats to people and the environment.⁷ “The problems that the [study's] authors judged to pose the most serious risks were not the problems that Congress and EPA had

⁷Environmental Protection Agency. 1990. *Reducing Risk: Setting Priorities and Strategies for Environmental Protection*.

targeted for the most aggressive action. The study instead found a correlation between EPA's programmatic priorities and the public perception of risk."⁸

Andy Ginsburg, DEQ Air Quality Administrator, alluded to a similar issue in Oregon.⁹ Much of the community focus on air toxics is centered around industrial facilities, but DEQ (through its PATSAC committee discussed below) prioritized sources of air toxics as follows: (1) residential wood burning; (2) on road vehicle emissions (gas and diesel); (3) construction equipment (diesel and gas); (4) other non-road engines (diesel and gas); (5) lawn and garden equipment (diesel and gas); (6) solvent use (solvent coating and consumer products); (7) industrial facilities; (8) airports; (9) rail; and (10) open residential burning.¹⁰

An assessment of the current regulatory system and the plans to improve it should consider how funding priorities are established and whether the current system is effective at addressing the highest risk pollutants.

The Bottom Line – Health

This study should give priority to the public health impacts of air pollution. At their core, air pollution concerns are not about numbers or types of pollutants and concentrations – they are about the health of people and the environment. The numbers and categorizations are simply mechanisms for determining how to use the best science to determine what impact can be expected at certain concentrations of pollutants. Even here, the discussion is rife with opportunity for disagreement and differing interpretations.

It would be interesting to determine whether any public health agency at federal, state or local level has authority to regulate air pollution in terms of public health risks (as is the case, for example, of FDA regulation of foods and drugs).

In 2003, Oregon's Environmental Quality Commission adopted rules to address Hazardous Air Pollutants (HAPs). HAPs are one category of pollutant, often called "air toxics," and they can be hazardous to health. EPA addresses air toxics through the industrial permitting process, but Oregon has gone further.

One of DEQ's first air toxics efforts was the formation of a scientific advisory committee in 2004 to determine health-based benchmarks for key pollutants. Called the Air Toxics Science Advisory Committee (ATSAC), this group gathered and analyzed all the available scientific information on key pollutants and their impacts, and then set health-based benchmarks for 51 of them. The benchmarks are early warning

⁸ Id.

⁹ Email from Andy Ginsburg, DEQ Air Quality Administrator, June 21, 2011.

¹⁰ Oregon Department of Environmental Quality Air Quality Division: 2010. *Oregon Air Toxics Benchmarks*. <http://www.deq.state.or.us/eq/toxics/benchmark.htm>.

indicators that action is needed to avoid harm. The benchmarks are not intended to be the level at which harm will occur; such levels are not well understood. The scientist members of ATSAC and scientists in DEQ express confidence in these benchmarks, but community advocates remain concerned – particularly because the benchmarks fail to take into account the synergistic effects of multiple pollutants that are encountered in the environment.

Local Initiatives

DEQ is leading the nation in quantifying the problem of air pollution with its Portland Air Toxics Solutions Program for the Portland Metro Area. In 2009, this program created the Portland Air Toxics Solutions Advisory Committee (PATsAC), which is comprised of many stakeholder representatives, and which is charged with reviewing exhaustive data on projected air emissions for 2017 from all sources to identify emissions reduction strategies to reduce toxic emissions to the “acceptable risk.” Acceptable risk is generally defined as the level at which air toxics are responsible for one excess cancer in 1 million people. Although some question these figures, there are current DEQ estimates that show the Portland Metro Region to be at levels causing 79 excess cancers per million.¹¹ PATsAC will conclude two years of work in October 2011. DEQ is gathering input from all participants and the public to create draft emissions reduction strategy recommendations and determine where there is agreement and disagreement. It is too early to assess whether the recommendations will be adopted or effective in mitigating the risk to Portland Metro Area residents from air toxics; this study can provide a helpful evaluation of the results.

Frustration with the Pace of Progress

DEQ’s Air Toxics Program was among the first in the nation, and many in the agency are very proud of its accomplishments. It has had notable successes, has achieved its stated objectives at every step, and EPA has shown continued interest in the program as a result.

However, community advocates have expressed mistrust in the program’s decisions and outcomes and frustration with the pace of its progress. Further, the program has also left industry advocates frustrated with the process that they view as unduly focused on industrial pollution, which ranks only 7th among contributors in the Portland Metro Area (see above).

Changes in the Playing Field

Not long ago, regulatory agencies generally acted as the sole arbiters on environmental issues. They analyzed the data and made judgments about legislation, industrial permits, programs, and tactics, subject

¹¹ Department of Environmental Quality: Portland Air Toxics Solutions Advisory Committee. 2010. *Overview of 2012 Emission Inventory Changes*. <http://www.deq.state.or.us/aq/toxics/docs/pats/2017eiChanges.pdf>.

to political realities. The agencies relied on common law to address community concerns regarding toxic hot spots that disproportionately affect particular communities.

More recently, there has been a rise in community self-monitoring, with community advocates becoming empowered to better engage in the air quality debate. Recognizing that air emissions regulation has both a highly technical and legal framework, community advocates are working to become better informed and represented stakeholders. These efforts are changing the playing field, dramatically increasing the complexity of environmental decision-making processes as they consider the localized impacts on communities.

FOCUS OF THE PROPOSED STUDY

In this environment of complexity, it is difficult for the public, advocates, businesses, and regulatory agencies to agree on priorities and tactics. City Club of Portland can provide a fresh look. With an understanding of what lies behind the disagreements, City Club can provide an unbiased assessment of where the Portland Metro Area is in terms of air quality and progress. The research committee can analyze the root causes of disagreements and, with this understanding, suggest areas of agreement and make recommendations for bridging differences between stakeholders to improve the regulatory system.

This study will assist citizens and policy makers in focusing their attention on opportunities to improve the process by which we make decisions about air pollution. It will require delving deeply and carefully into the issues that are affecting how the different stakeholders view the issues of air pollution. These are issues that have stymied progress both in Oregon and on the national level.

ISSUES AND CHALLENGES

- People involved in the debate over air pollution have been battling for a long time, and many have dug into their positions. Changing minds and approaches won't be easy.
- There are a range of perspectives, from the very technical to the legal to the non-technical, and it's difficult for the different stakeholders to communicate.
- There are legal, regulatory, technical, societal, communication and psychological complexities that make the issue of air toxics difficult to understand.
- With most of the focus on whether or not to adopt specific proposed regulations, many of the underlying sources of discord are not recognized, even by the participants.
- There are funding limitations and funding complexities.
- It's difficult to tease apart what's on the surface to understand the sources of conflicts. This will not be an easy study. It will take relentless questioning and fact checking and double-checking.

SCOPE / LIMITS TO THE STUDY

1. While greenhouse gases are undoubtedly an issue worthy of attention, and in the long run may have the greatest impact on air quality, they are different from other types of air pollutants. For one thing, their effect on health is primarily indirect. In addition, their sources, impacts, and implications are on a more global scale than other factors considered here. For these reasons, greenhouse gases are outside the scope of this charge.
2. As seen earlier in this charge, there is great controversy over the scientific issues at stake. Each stakeholder chooses its scientific experts; these differ in highly technical judgments. It is not likely that a City Club committee will have the expertise to resolve these questions. This is why the Research Board has chosen to charge the committee to focus on the air pollution regulation process, as it relates to public health, rather than on the technical issues at stake. Yet we understand that a certain amount of attention to the technical debate will be needed to evaluate the effectiveness of the process. The committee is charged to research technical issues only to a depth required to evaluate the effectiveness of the process, and to avoid being caught up in the tar pits of attempting to gather enough information to rule on technical issues. In judging how far to pursue these issues, the committee should focus on achieving its objective of delivering a report in 12 months and not become distracted from that objective.
3. Multnomah, Washington, Clackamas and Clark counties share a single air shed. Commuters to and from Clark County make major contributions to air pollution that impacts all residents, as do Clark County residential and business sources. Yet the primary thrust of this charge is to address the process as it relates to Oregon institutions. The committee may choose to consider the processes of Washington State and local regulatory agencies only to an extent consistent with the objective stated above: to deliver a report in 12 months.

STUDY OBJECTIVES

Objectives of the study are to:

1. Describe the current processes for addressing air pollution problems in the Portland Metro Area.
2. Identify areas of agreement between community advocates, industry advocates, regulatory agencies and others actively involved in air quality issues.
3. Identify and explain the major areas of disagreements between community advocates, industry advocates, regulatory agencies, and others actively involved in air quality issues.
4. Answer the questions:
 - a. What are the strengths and weaknesses of the current processes for addressing air pollution problems in the Portland area?
 - b. Are the current processes for addressing air pollution problems effective in protecting Portland's health?
 - c. What specific actions and strategies can improve the Portland Metro Region's ability to identify and address air pollution health risks in the future?

TENTATIVE REPORT OUTLINE

1. Background: Portland Air Quality: a History
2. The Cast of Characters:
 - a. Advocates: Industry, Public Health, Environmental
 - b. Regulators: Federal, State, Regional, Local
 - c. Other Players: Legislative, Judicial, Lobbyists
3. Health Risks from Air Pollution in the Portland Metropolitan Area
4. Sources of Health Risk from Air Pollution
5. The Existing Process for Dealing with these Risks
6. Areas of Agreement about the Existing Process
7. Major Contradictions and Disagreements about the Existing Process
8. Evaluation of the Existing Process
9. Needed Improvements to the Existing Process

CHRONOLOGICAL WORK PLAN

This can be inserted for a 1 year study when the charge is approved.