

State of the Airshed

Executive Summary



PUGET SOUND
Clean Air Agency





Overview

We take over 20,000 breaths of air each day; over the course of a year, we breathe approximately 8 million times. Although each of those breaths ought to include only clean air, unfortunately that's not always the case. Many factors – from where we live to the day-to-day weather conditions – influence what's in the air we depend on.

The Puget Sound Clean Air Agency is a special-purpose, regional government agency chartered by Washington State law in 1967 to keep our air clean. Our jurisdiction covers King, Kitsap, Pierce, and Snohomish counties – home to more than 4.3 million people, over half of the state's population.

A lot has happened since we last released a Strategic Plan in 2014. Not only has the Puget Sound region grown dramatically, but we've all experienced substantial changes and challenges over the past eight years including policy changes, technology developments, a social and racial justice movement, smoke from wildfires, and the COVID-19 pandemic.

The 2014 strategic plan laid out a mission for the Agency to “work to protect public health, improve neighborhood air quality, and reduce our region's contribution to climate change.” The plan also set three overarching goals with specific objectives and targets to direct the Agency's work.

This report will cover each of these goals, objectives, and targets in detail and describe why and how we met or didn't meet each target. Each goal and its objectives and targets are summarized here.

Goal 1: Protect public health and the environment from air pollution **Target Status**

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|--|----------------------|
| Annual air pollution-related lost workdays drop by 6,000 from 2014 to 2020 | MET |
| The annual economic impact of air pollution health effects drops \$300 million from 2014 to 2020 | MET |
| Potential cancer risk from air pollution drops 50 percent from 2014 to 2020. | Progress Made |
| Socioeconomic disparities in air pollution exposure decrease from 2014 to 2020 | MET |

Objective 1.1: Meet National Ambient Air Quality Standards **Target Status**

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|--|------------|
| Entire region attains National Ambient Air Quality Standards from 2015 onwards | MET |
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Objective 1.2: Reduce transportation emissions in highly impacted locations **Target Status**

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| Diesel particulate in the air at select highly impacted locations drops 60 percent from 2014 to 2020 | Progress Made |
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Objective 1.3: Reduce emissions and exposure from wood smoke and outdoor burning **Target Status**

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|--|----------------------|
| There are no days with 24-hour fine particle levels over 25 µg/m ³ in high wood smoke communities by 2020 | Progress Made |
|--|----------------------|

Objective 1.4: Prevent, reduce, and control emissions and exposure from significant stationary sources of air pollution **Target Status**

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|--|------------|
| Meet all requirements of the compliance assurance and EPA-delegated programs | MET |
| Public participation in Agency permitting processes and knowledge of Agency permit actions increases | MET |
| Compliance rates of regulated businesses increase, reducing environmental harms | MET |

Objective 1.5: Characterize and communicate air quality throughout the region

Target Status

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|--|----------------------|
| Fine particle levels are characterized for at least two additional communities in each of our counties by 2020 | MET |
| Public engagement is high in communities with additional characterization | Progress Made |

Objective 1.6: Reduce inequities in air pollution exposure

Target Status

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|---|----------------------|
| New initiatives are launched in at least four communities by 2020, designed and implemented in partnership with community-based organizations | MET |
| Air quality in highly impacted communities improves by 2020 as much as, or more than, air quality in the rest of the region | Progress Made |

Since 2014, overall air quality conditions have improved in the Puget Sound region. On average, we enjoyed GOOD to MODERATE air quality on the vast majority of days over the past decade. This led to all areas of our region meeting federal health-based standards for ambient (outdoor) air quality, including the Tacoma-Pierce County area returning to “attainment” with those standards in 2015. However, smoke from wildfires that are increasing in severity and frequency due to climate change – a relatively new phenomenon affecting western Washington’s air quality – resulted in the highest levels of air pollution we have observed in over 30 years.

Technology improvements in transportation (vehicles and beyond) as well as home heating led to less fine particle pollution and associated health risk in our region. Our voluntary, incentive-based work in recycling, replacing, or upgrading older diesel-fueled equipment and wood-burning stoves helped to further these emission reductions. By the end of the Strategy, our diesel programs and projects combined to eliminate 20 tons of diesel particle pollution annually and our wood-burning stove programs eliminate 120 tons of fine particle pollution annually. Nevertheless, significant challenges remain. Wood smoke continues to be an air quality issue during the winter months, and diesel particle pollution continues to contribute the majority of potential cancer risk from air pollution. And although there has been some improvement (reduction) in disparity, communities located near major roadways, ports, and goods movement facilities (such as railyards and distribution centers) – particularly Black, Indigenous, and people of color (BIPOC) communities and low-income communities – remain disproportionately exposed to air pollution.

To address these inequities, the Agency identified four communities (Auburn-Algona-Pacific, Chinatown-International District, the Duwamish Valley, and Lakewood) to focus our community engagement and emission reduction efforts. We have directed multiple resources in these communities, including: special air pollution monitoring, characterization, and outreach; focused emissions reductions efforts (particularly diesel and wood smoke); and several projects co-led with community partners. These have included activities ranging from co-developing curriculum on air quality and equity for grade schoolers to distributing [filter fans](#) to individuals in focus communities.

The Agency also implemented our compliance and permitting processes for the more than 3,000 stationary sources of pollution in our region. These sources range from small, familiar sources like gas stations to large industrial facilities. We work with these sources to prevent emissions before they occur, identifying air pollution control measures and equipment that will reduce and limit harmful emissions. We ensure compliance with these measures through permitting, inspections, and enforcement. We also provide education and outreach related to pollution from stationary sources – an example includes outreach to construction and demolition workers on the dangers of asbestos exposure.

With the recent advent and rapid improvement of [air sensors](#) – low-cost, portable devices that can measure certain types of air pollution – we’ve found ways to use them as both a tool for education and as a way to characterize air quality at a finer scale. Examples include multiple “train the trainer” programs (targeted in focus communities) as well as a “lending program” that allows people to investigate air pollution with sensors.

Goal 2: Become the most climate-friendly region in the United States **Target Status**

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|--|-------------------------------------|
| Greenhouse gas emissions in 2020 return to 1990 levels | Not Met |
| Greenhouse gas emissions drop 50% from 1990 levels in 2030 (revised in 2017) | Work in progress/ Not yet timely |
| Greenhouse gas emissions drop 80% from 1990 levels in 2050 (revised in 2017) | Work in progress/ Not yet timely |

Objective 2.1: Reduce emissions of greenhouse gases from transportation **Target Status**

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|--|---------|
| Transportation greenhouse gas emissions in 2020 return to 1990 levels | Not Met |
| Zero emission vehicles comprise 10 percent of public and private fleets' new vehicle purchases by 2016 | Not Met |

Since we released our 2014 plan, climate change and its impacts on our region and those who live here have worsened. We did not meet our 2020 target to reduce regional greenhouse gas (GHG) emissions to 1990 levels, nor are we yet on track to meet our 2030 target of 50% emissions below 1990 levels. Our emission levels remain roughly 20 percent above 1990 levels.

Transportation remains the largest source of greenhouse gas pollution (nearly 40%) in our region. The Agency focused its efforts on reducing transportation emissions, including advocating for two successful pieces of state legislation – a Zero-Emission Vehicle Mandate and a Clean Fuel Standard. While they were ultimately successful, it took multiple years and substantial effort to achieve success at the statewide level. As these programs are established and implemented, they will positively impact our region’s transition to a zero-emission transportation system and substantially reduce greenhouse gas emissions.

In addition to work on legislation, the Agency pursued other efforts to reduce greenhouse gas emissions from transportation. These included working with the Puget Sound Regional Council (PSRC) to advocate a climate-friendly growth strategy, decarbonization of the fleet, and greater options to reduce car travel. In our role on PSRC working groups, the Agency successfully advocated for climate, air quality, and disparate exposure impacts as selection criteria for grant funding of infrastructure projects. We also conducted research and outreach to better understand barriers to zero-emission vehicle (ZEV) use, including surveying dealerships and producing a ‘myth-busting’ [ZEV video](#). And we launched a collaborative effort with PSRC to help our jurisdictions prepare for the electrified future of transportation.

Lastly, throughout most of the plan years the Agency hosted the Western Washington Clean Cities Coalition, which focused on helping larger fleets adopt alternative fuels and implement technologies and practices to reduce their fuel use. From 2014 to 2020, these efforts resulted in a reduction of 700,000 tons of greenhouse gas emissions.

Goal 3: Employ the best people, policies, and practices to achieve our work

Objective 3.1: Attract, retain, and inspire exceptional staff

Target Status

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|--|---------|
| 90% of employees recommend the Agency as a great place to work | Not Met |
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Objective 3.2: Develop a culture that integrates environmental justice and equity principles into our day-to-day work and decisions

Target Status

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|---|------------|
| Use of equitable practices and community engagement increase from 2014 to 2020 | MET |
| All employees engage in ongoing professional development and education in environmental justice | MET |

Objective 3.3: Engage in meaningful dialogue and outreach with all sectors of the public

Target Status

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|---|------------|
| Public awareness of air quality issues increases 25 percent from 2014 to 2020 | MET |
| Three new organizations identified annually for partnership emphasis | MET |
| Our technology platforms provide infrastructure availability 99.5 percent of the time | MET |

Objective 3.4: Build the agency's long-term financial strength and ensure accountability

Target Status

| | |
|---|------------|
| Deliver a balanced and sustainable annual agency budget | MET |
| Assure financial reserve sufficiency | MET |
| Achieve a clean audit each year | MET |

Objective 3.5: Be a model of environmental sustainability

Target Status

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|-----------------------------------|----------------------|
| Achieve carbon-neutrality by 2020 | Progress Made |
|-----------------------------------|----------------------|

The Agency serves a unique mission in the Puget Sound region, which requires attracting a skilled set of employees, ensuring the Agency's long-term financial health, and "walking the talk" when it comes to environmental sustainability.

Over the course of the plan, we expanded our recruitment efforts to seek candidates with historically underrepresented backgrounds and identified and acted on areas of potential bias in our hiring and employment processes. We made progress providing opportunities for professional growth for staff and continued to grow as a values-based organization. We also made strides to provide numerous ways for staff to increase their understanding of equity, environmental justice, and structural racism. This, along with expanding our equity staffing and budget, have created opportunities for us to further embed equity in our work.

The Agency maintained a balanced budget over the course of the plan and established a "rainy day reserve," assuring the Agency's solid financial standing. We also sought and implemented many opportunities to reduce the Agency's carbon footprint – for example, electrifying our small fleet of Agency vehicles as they are eligible for replacement.

Lastly, we took steps to meaningfully engage with our region's residents. This included a rebranding of the Agency, together with a new logo, new domain, and updated website. Embracing social media channels not only led to significant growth of followers and media attention, but also proved to be an excellent tool to reach a wider audience during summertime wildfire smoke events.

Ultimately, we accomplished a lot since 2014, with the majority of the strategic plan targets met and substantial progress made on several more. More work is needed if we are to achieve our vision of clean healthy air for everyone, everywhere, all the time. With the continued and growing threat of climate change impacts, it's noteworthy that we fell far short of greenhouse gas targets. These impacts include wildfire smoke that resulted in the highest levels of harmful fine particle pollution our region's residents have experienced since we started measuring pollution decades ago. In the next strategic plan, the Agency will need to further define our role to reduce greenhouse gas emissions, while also taking action to continue to improve air quality and reduce disparities in air pollution exposure in our communities.





PLEASE CONTACT US

**for questions, concerns,
and suggestions.**

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