Port of Seattle Results Summary

The Port of Seattle’s mission is to promote economic opportunities and quality of life in the region by advancing trade, travel, commerce, and job creation in an equitable, accountable, and environmentally responsible manner.

The Port of Seattle has established a strong commitment to decarbonization and deepening community engagement through the Century Agenda, and takes action to reduce air and climate emissions through the Northwest Ports Clean Air Strategy (NWPCAS) and Maritime Climate and Air Action Plan (MCAAP). Through the NWPCAS and MCAAP, the Port of Seattle has made significant investments in shore power at its cruise terminals, increased the amount of cargo handling equipment at the cruise terminals meeting Tier 4 emission standards, and purchased newer, cleaner equipment and vehicles for the port’s own fleet. The 2020 NWPCAS establishes the vision of phasing out seaport related emissions by 2050 or sooner, setting the stage for a transition to zero emission technologies.

The Port of Seattle has a mixture of

- commercial fishing
- bulk cargo shipping
- cruise
- marinas
- locomotive
- HD & fleet vehicles

KEY TAKEAWAYS

Emissions of all pollutants have decreased since 2005

GHG, NOx, and DPM emissions decreased between 2016 and 2021 due to reduced cruise activity associated with the COVID-19 pandemic

Cruise vessels at berth continue to use shore power to reduce emissions

Table 6.9: Port of Seattle 2021, 2016 and 2005 Maritime-related Emissions within the Airshed Comparison, tpy and %

<table>
<thead>
<tr>
<th>Source category</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>SO2</th>
<th>PM10</th>
<th>PM2.5</th>
<th>DPM</th>
<th>BC</th>
<th>CO2e</th>
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</thead>
<tbody>
<tr>
<td>Ocean-going vessels</td>
<td>802</td>
<td>28</td>
<td>74</td>
<td>31.4</td>
<td>12.7</td>
<td>11.4</td>
<td>12.3</td>
<td>0.3</td>
<td>52,516</td>
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<tr>
<td>Harbor vessels</td>
<td>189</td>
<td>5</td>
<td>31</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>12,737</td>
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<tr>
<td>Recreational vessels</td>
<td>55</td>
<td>77</td>
<td>620</td>
<td>0.1</td>
<td>1.8</td>
<td>1.6</td>
<td>0.4</td>
<td>0.4</td>
<td>8,022</td>
</tr>
<tr>
<td>Locomotives</td>
<td>54</td>
<td>2</td>
<td>14</td>
<td>0.1</td>
<td>1.3</td>
<td>1.2</td>
<td>1.3</td>
<td>1.0</td>
<td>5,331</td>
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<tr>
<td>Cargo-handling equipment</td>
<td>4</td>
<td>1</td>
<td>14</td>
<td>0.0</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>552</td>
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<tr>
<td>Heavy-duty vehicles</td>
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<td>0</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>4</td>
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<tr>
<td>Fleet vehicles</td>
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<td>0</td>
<td>3</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>434</td>
</tr>
</tbody>
</table>

2021 Total                        | 1,105| 114  | 756  | 31.6 | 22.2 | 20.5  | 20.4 | 6.5  | 79,595|

2016 Total                        | 1,463| 162  | 881  | 39.3 | 27.5 | 25.2  | 25.0 | 6.4  | 89,484|

2005 Total                        | 1,891| 297  | 2,543| 997.3| 171.8| 139.6 | 163.8| 13.3 | 106,969|

2021 vs 2016                      | -24% | -30% | -14% | -20% | -19% | -19%  | -8%  | 1%   | -11%  |

2021 vs 2005                      | -42% | -62% | -70% | -97% | -87% | -85%  | -88% | -51% | -26%  |

NOx (nitrogen oxide), VOC (volatile organic compounds), CO (carbon monoxide), SO2 (sulfur dioxide), PM10 (particulate matter <10 microns), PM2.5 (particulate matter <2.5 microns), DPM (diesel particulate matter), BC (black carbon), CO2e (carbon dioxide equivalent)
Looking ahead

Completing the Seattle Waterfront Clean Energy Strategy in partnership with Seattle City Light and the Northwest Seaport Alliance to plan for the infrastructure and power needs to provide zero-emission energy for port, maritime, industrial, and other waterfront uses.

Completing shore power installation at Pier 66, which will make all three cruise berths shore power ready.

Launched the Pacific Northwest to Alaska Green Corridor with port, cruise industry, and nongovernmental organization partners to explore the feasibility of low- and zero emission cruise travel between Washington, British Columbia, and Alaska.

Electrifying Port vehicles and equipment and installing charging infrastructure.

Purchasing renewable natural gas across maritime properties.

2021 vs 2016: Emission Reduction Initiatives

- **Accelerated Port-wide GHG reduction targets** to achieve net-zero emissions by 2040 for port-controlled sources (Scopes 1 and 2) and carbon neutral or better by 2050 for industries operating on port facilities (Scope 3)

- **Adopted the Port’s first ever comprehensive maritime climate change and air quality plan**: Charting the Course to Zero: Port of Seattle’s Maritime Climate and Air Action Plan

- **Reduced at-berth cruise emissions** with shore power for cruise ships at two of three cruise berths

- **Completed four solar arrays on Port rooftops and switched to renewable diesel** in Port-owned vehicles and equipment

- **30 cruise calls plugged in to shore power**

- **generated over 600,000 kWh of renewable solar power**

- **90% of terminal equipment meeting Tier 4 emission standards (40% electric)**

- **Achieved nearly 90% of terminal equipment meeting Tier 4 interim or equivalent emission standards, including 40% of terminal equipment assets powered by electricity**