



Sustainably Reliable

Emissions Information | Seattle Steam Biomass Boiler

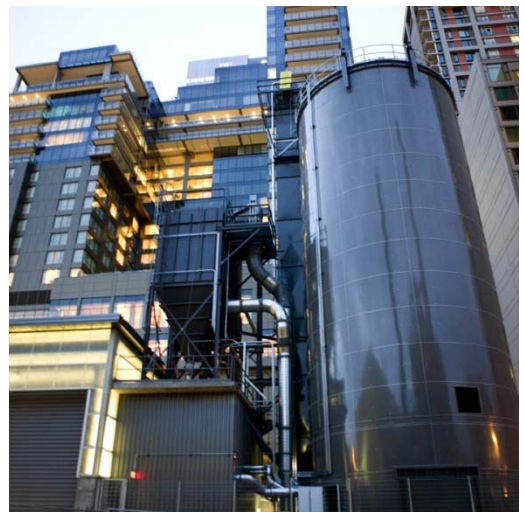
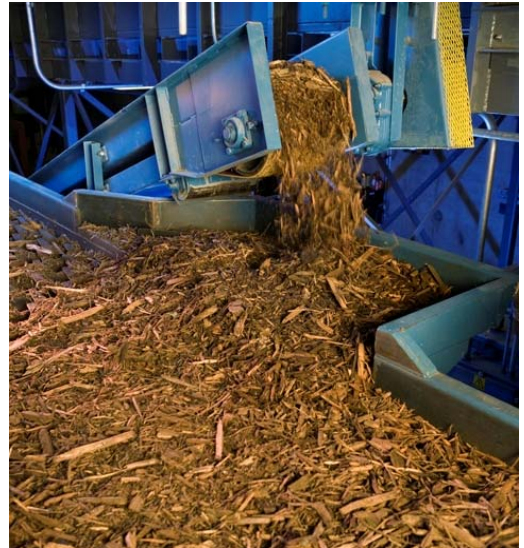
Seattle Steam combines locally-sourced, clean urban waste wood as fuel with the best available control technology designed to minimize emissions. This means it can provide sustainable heat to nearly 200 buildings efficiently — and with less impact on the environment and public health.

The Biomass Cycle

- 1. Cleaner Fuel:** Seattle Steam uses only clean urban waste wood from approved suppliers as fuel for its biomass boiler. The biomass quality is managed through rigorous protocol outlined in a wood fuel monitoring plan approved by the Puget Sound Clean Air Agency.
- 2. High Tech Emissions Controls:** When it installed its biomass boiler plant, Seattle Steam installed a state-of-the-art scrubber that continuously monitors and removes acid gases from the flue gas. By doing so, the company reduces the release of particulate matter to very low levels, including the very small particles that can condense in the flue gas once it is released into the air. Quarterly and annual tests demonstrate that flue gas emissions are within the levels allowed in the permit issued by the Puget Sound Clean Air Agency (PSCAA). Seattle Steam's particulate emissions are roughly equivalent to that of 80 household fireplaces, except its operations are heating nearly 18 million square feet of building space.

Quarterly and annual emissions tests include testing for NO_x (a measure of smog for low level ozone, which is offset by not burning natural gas), Chlorine, ammonia, and both filterable and condensable particulate matter. Seattle Steam has an independent contractor validate test results and report certified emissions data regularly to the PSCAA.

- 3. Biomass By-Product:** The biomass boiler also produces a small amount of wood ash that is reused in industrial applications, resulting in a zero waste operation.



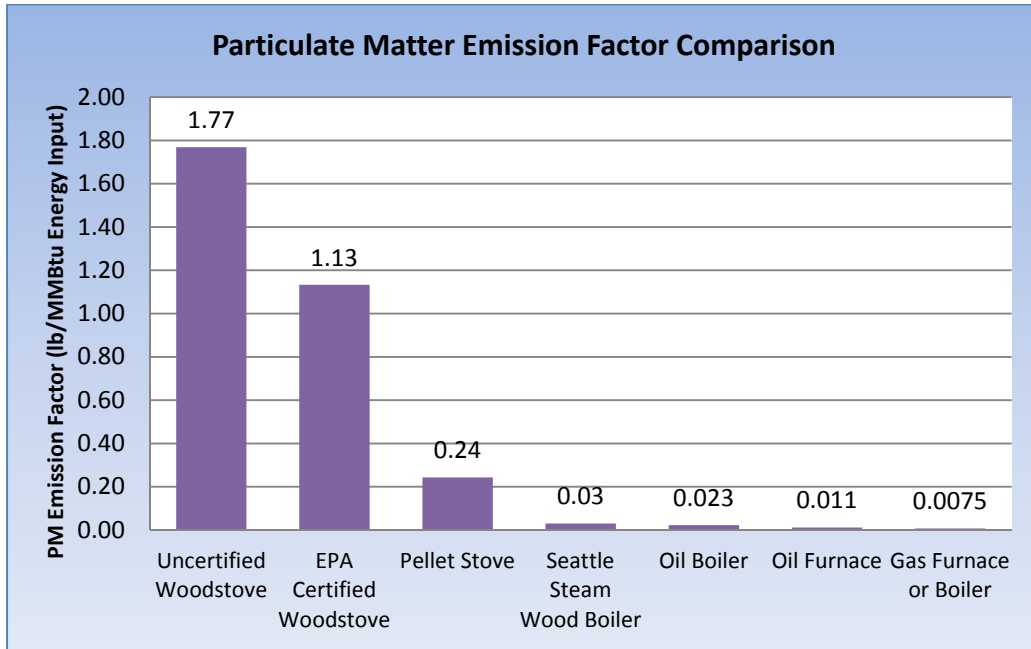
How Seattle Steam Measures Up

The City of Seattle's Office of Sustainability recently released [a report](#) affirming Seattle Steam's environmental commitment, and the company's strenuous efforts to control and minimize emissions.



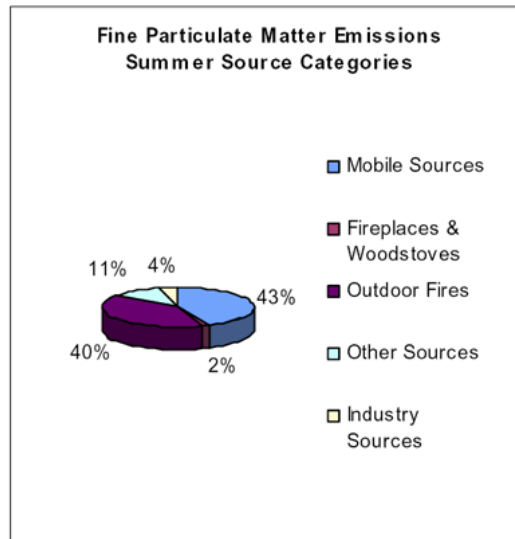
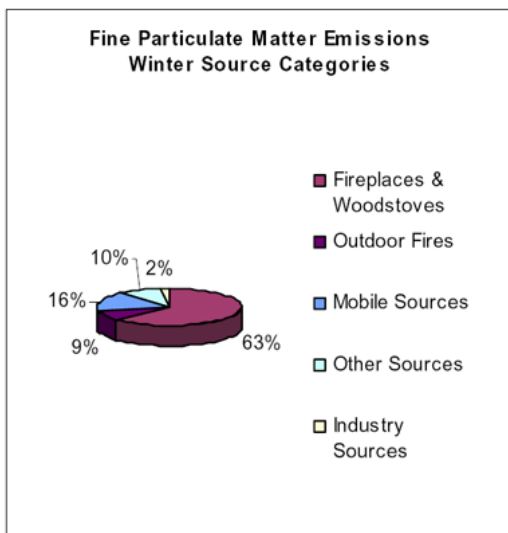
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This graph compares the particulate emissions of various energy uses and demonstrates the effectiveness of Seattle Steam’s advanced, comprehensive technology to curb air pollutants:



Impact on Air Quality

By far, the biggest impacts on air quality in the Puget Sound come from diesel fuels and residential wood burning, which are outlined in the graphs below. Industry sources, including Seattle Steam’s operations, have the fewest emissions when compared to fireplaces, vehicles, ships and outdoor fires.



Graphs Source: Puget Sound Clean Air Agency