

# Howe Sound Pulp & Paper Air Permit Amendment Application



## Our Approach

In the 100 years that Howe Sound Pulp & Paper (HSPP) has been in business, we have striven to be a leading edge pulp and paper mill. We are pleased that we have been able to maintain our leadership in being one of the most modern and efficient pulp and paper mills in North America.

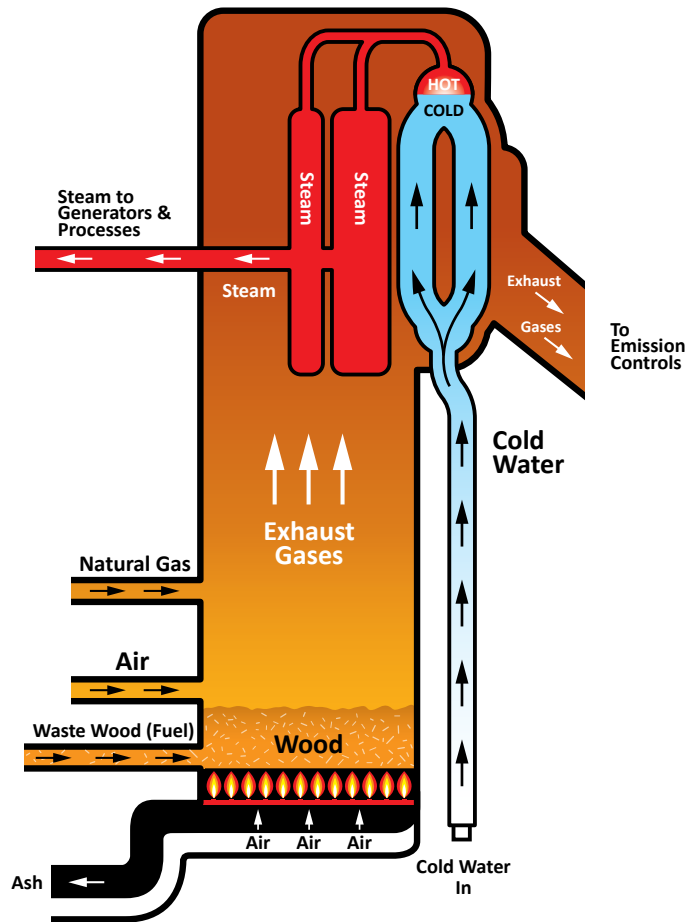
Our objectives are to:

- Continually improve environmental programs and technology.
- Innovate to work smarter and compete in a tough competitive world.
- Continue to consult with stakeholders on changes.
- Be the best.
- Be accessible.



# About this Project

This project is about adding a new fuel to our biomass power boiler. This boiler burns a fuel that boils water, which creates steam. The steam drives generators that create electricity. The steam is also used for heating and drying the pulp and paper.



## The New Fuel for the Biomass Power Boiler

Our proposed new fuel for the biomass power boiler is construction and demolition wood waste from the Lower Mainland that would normally go to a landfill. This fuel replaces natural gas that would otherwise be required to produce steam.

This will result in the total fuel components being:

- 75% hog fuel and BC Interior Mountain Pine Beetle wood
- 20% urban construction and demolition wood waste
- 5% natural gas

The construction and demolition wood waste is comprised of the following components:

- 91% wood waste
- 7% pressboard and plywood
- 1% paper, fabric and formica
- 1% plastic and vinyl

This new fuel is lower in moisture content than hog fuel, which makes for a higher temperature burn.

# The Urban Woodwaste Recycling Process



Wood waste comes into Urban Woodwaste Recyclers in a riverfront industrial area in New Westminster.



This is the bottom area of the biomass power boiler, where the burning occurs in a totally enclosed system.

Construction and demolition wood waste comes in to Urban Woodwaste Recyclers in an industrial area on the New Westminster waterfront. Metals and other materials are separated out and recycled to other facilities, leaving waste wood. This wood is then chipped and barged to our plant at Port Mellon.

The wood waste is stockpiled at our plant and fed into the biomass power boiler.

## Protecting Air Quality

We have steadily reduced emissions from our plant over the decades. The biomass power boiler is fitted with advanced pollution control technologies to reduce emissions.

In addition to continuous air quality monitoring, Levelton Consultants Ltd., our contracted scientists, have conducted meteorological and air quality studies to ensure we all know where emissions from the plant travel.

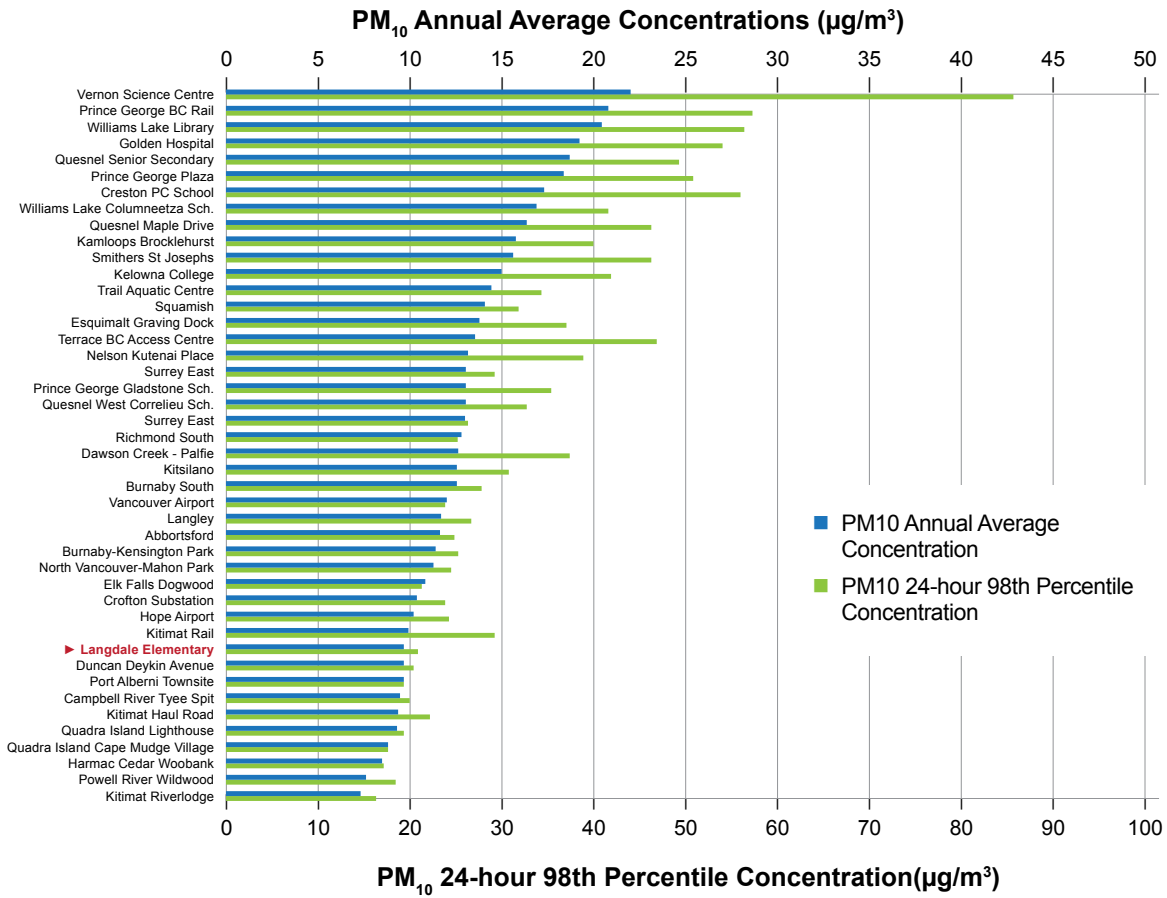
We regularly monitor the following:

- Particulate matter
- Nitrous oxide
- Sulphur dioxide
- Total reduced sulphur compounds

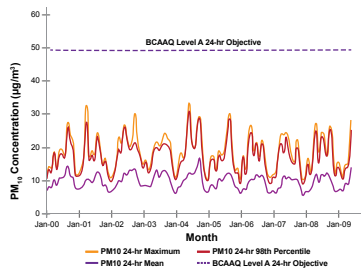
For this project we also are measuring:

- Metals
- Dioxins and furans
- Acid gases (hydrochlorides, hydrofluorides) and trace organics (polyaromatic hydrocarbons)

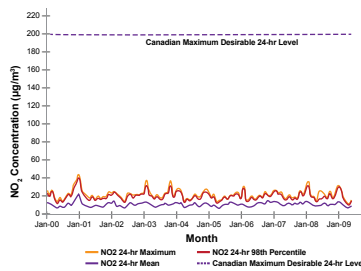
# Air Quality in Perspective



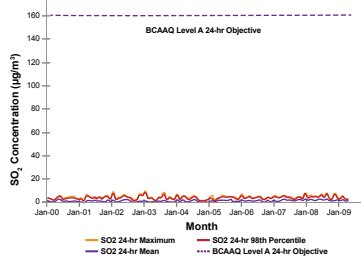
## Particulate Matter Less than 10 microns (PM<sub>10</sub>)



## Nitrogen Dioxide (NO<sub>2</sub>)

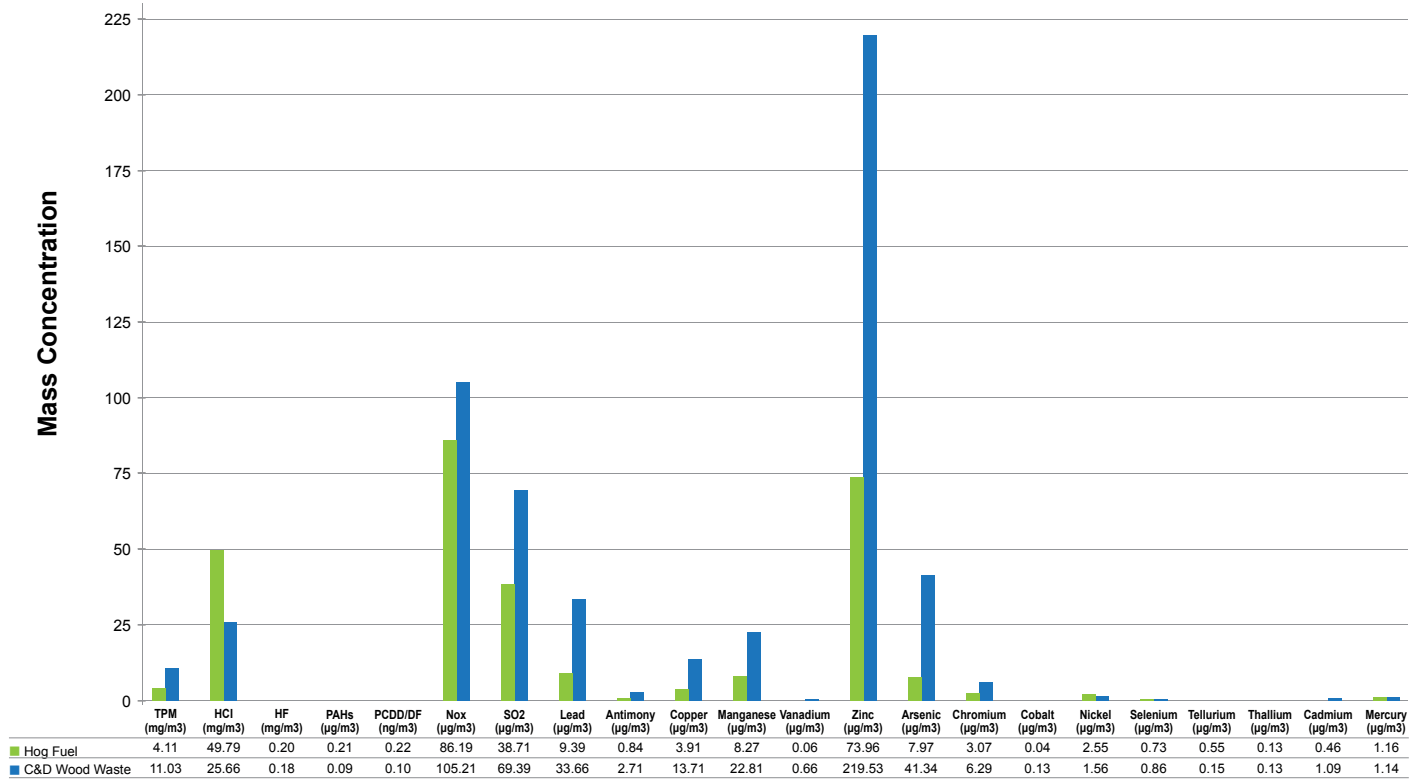


## Sulphur Dioxide (SO<sub>2</sub>)

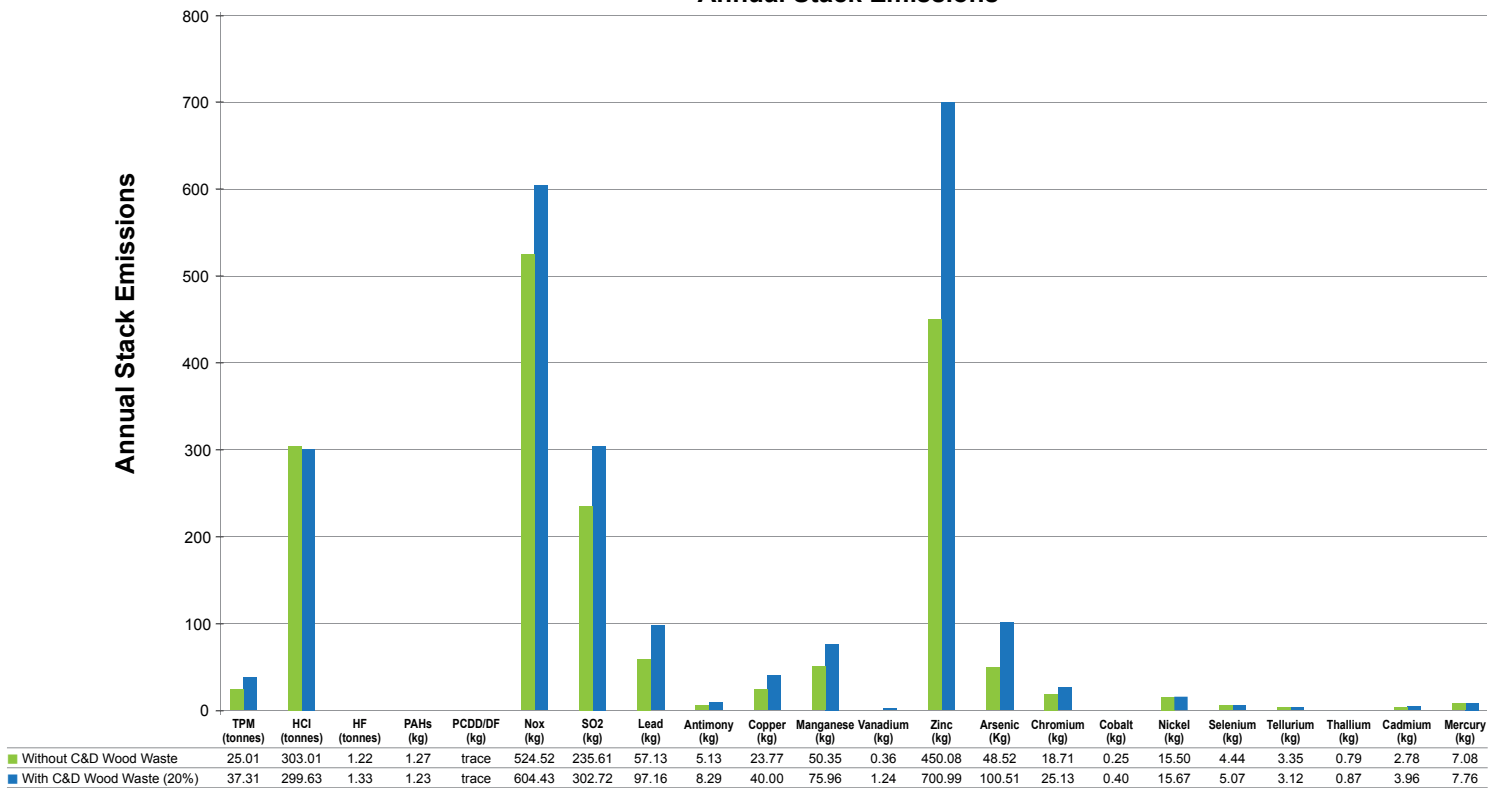


# Emissions from our Biomass Power Boiler

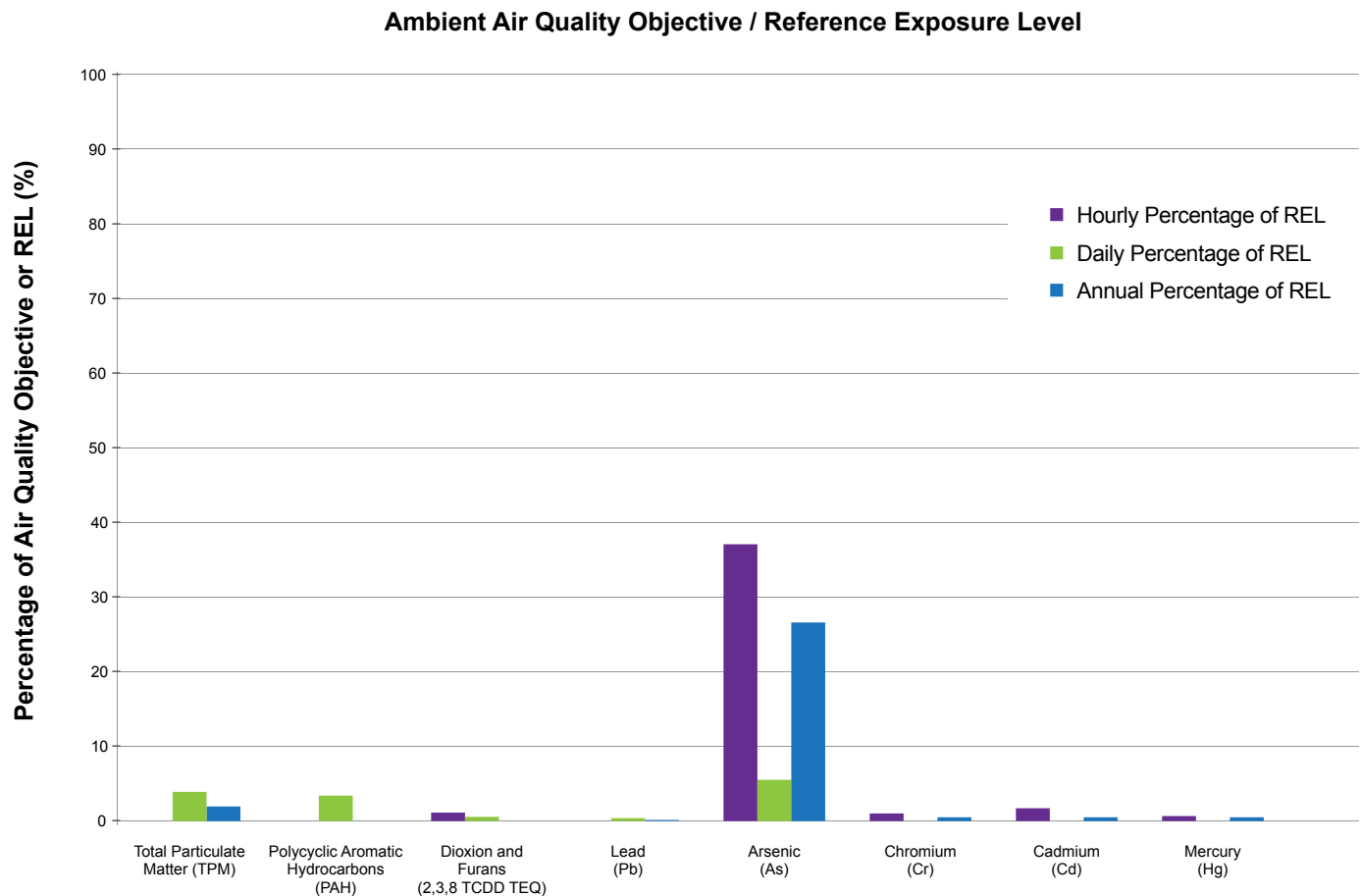
## Mass Concentration Stack Emissions



## Annual Stack Emissions



# Emissions from our Biomass Power Boiler



We have relied on A. Lanfranco and Associates to conduct all of our stack emissions tests, and Levelton Consultants Ltd. to conduct our air quality modelling of air emissions. Both companies have long records of competent, credible scientific work around the world and in B.C.

Levelton conducted sophisticated computer modelling for all emissions from our biomass power boiler to assess the air quality impacts. Beyond assessing the model results against established air quality standards we have also assessed the potential health risks from trace contaminants in the emissions from the biomass power boiler.

All substances remain well below the Ambient Air Quality Objectives and Reference Exposure Levels from the biomass power boiler with 100% construction and demolition wood waste.

# Why We're Making this Application



We're making this application because we're changing a portion (20%) of the fuel going into our biomass power boiler.

The BC Ministry of Environment requires that whenever fuel changes, companies ensure the public understands what those changes mean to the operation and to them.

# Why We Need this Project



One of our challenges is to keep our mill operating in an increasingly competitive world environment. We have been able to retrofit our mill over the years to make it more efficient and more competitive.

One of our key innovations has been to create energy from waste – by turning to wood waste. It is needed because the availability of traditional hog fuel has fallen along with the decline of logging and sawmilling on the coast.



**For Further Information:**

Al Strang, Manager of Environment

(604) 884-2285

[Al.strang@hspp.ca](mailto:Al.strang@hspp.ca)