

A blurred photograph of a kitchen with several chefs in white uniforms working behind a counter. A plate of food is visible on the counter in the foreground.

Zero Waste Committee

Sept 10th, 2021



info@rethink2gether.com



Problem



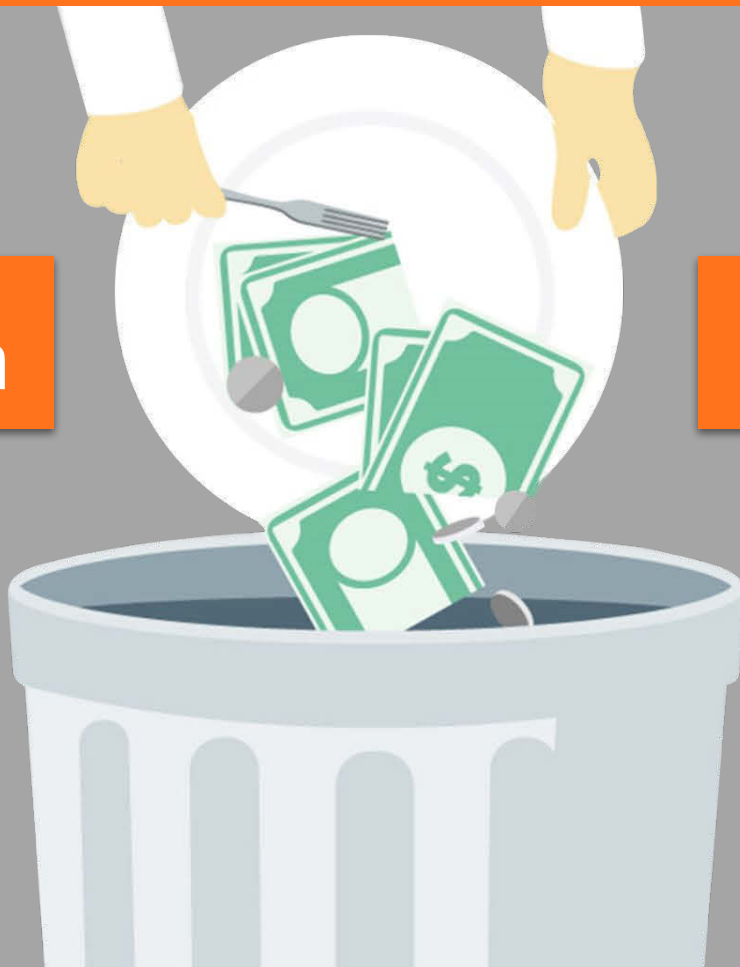
Avoidable food waste

\$49 billion



58%

of food produced is
never eaten



An average restaurant
in BC spends

\$51,000

on food that is
never eaten

8%



emissions

If food waste were a country, it would be the **3rd** biggest greenhouse gas emitter

CO₂ emissions
(Gt CO₂ eq)



China



USA



Food
waste



FOOD AND AGRICULTURE
ORGANIZATION
OF THE UNITED NATIONS

Ending food waste
#1 solution
to fight climate change



DRAWDOWN
THE MOST COMPREHENSIVE
PLAN EVER PROPOSED TO
REVERSE GLOBAL WARMING
EDITED BY PAUL HAWKEN



Source: [Project Drawdown \(2020\)](#)

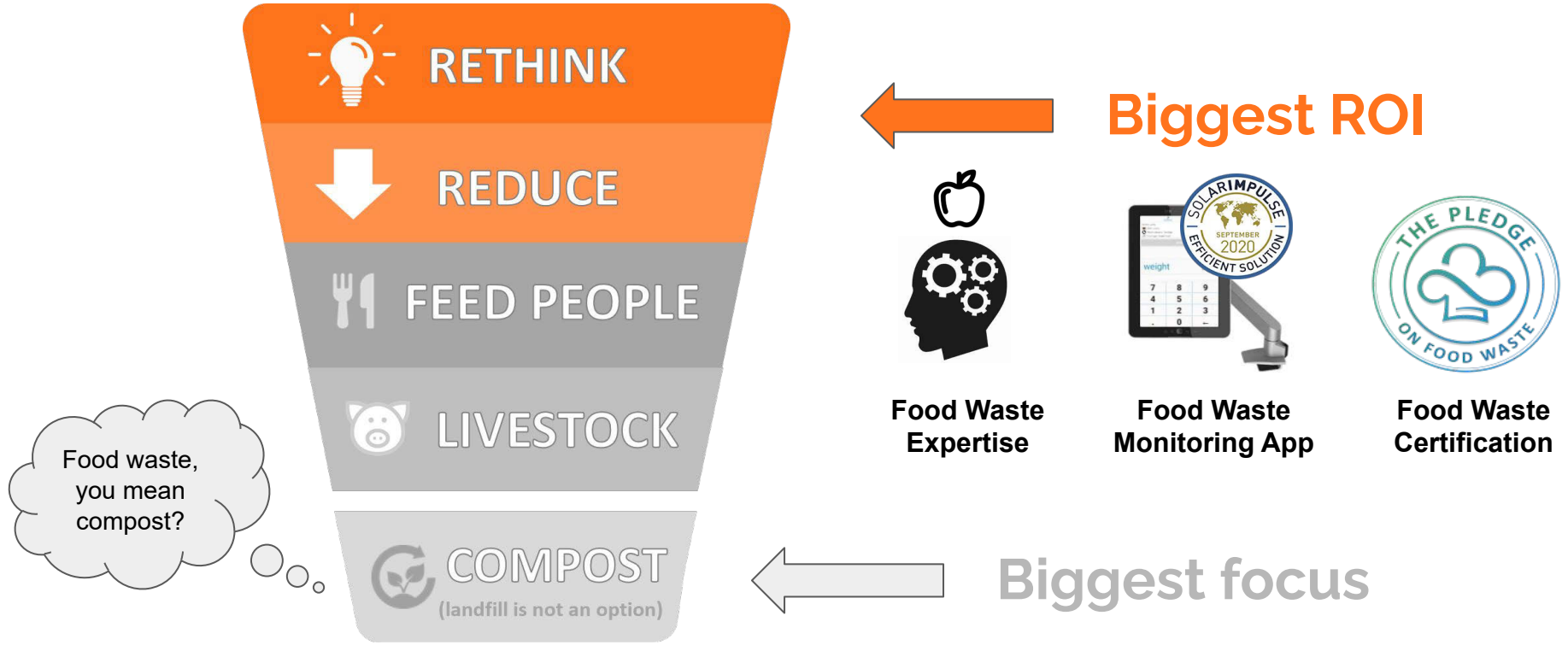


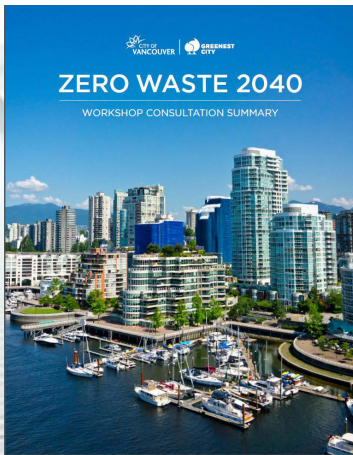
Rethink
2gether



We are on a mission to help commercial kitchens prevent food waste and improve their bottom line

Our Expertise: Food Waste Prevention





Commitments

Zero Waste by 2040

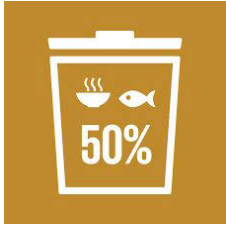
Leader in food waste prevention

Commitments

Minimize waste generation

Be carbon neutral

Suggested actions



Be aligned with SDG 12.3

To go beyond diverting food waste to landfill

Target = **50%** food waste reduction per capita by 2030



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Report publicly food waste generated

To improve the Performance Monitoring Dashboard including both commercial and residential food waste



Use The PLEDGE on Food Waste certification

To become a leader in food waste prevention and fight climate change

THANK YOU



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www.rethink2gether.com



[@rethink2gether](https://www.instagram.com/rethink2gether)



Waste-to-Energy Facility

Environmental Monitoring and Reporting – 2020 Update

Brent Kirkpatrick, P.Eng.

Lead Senior Engineer

Zero Waste Committee Meeting, Sept 10, 2021

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CONTINUOUS EMISSION MONITORING SYSTEM



Stack
Sampling
Ports



Continuous
Emission
Monitoring
Analyzers

QUARTERLY MANUAL STACK TESTING



FLY ASH AND BOTTOM ASH MONITORING



Bottom Ash Loading



Bottom Ash Weekly Composite Samples



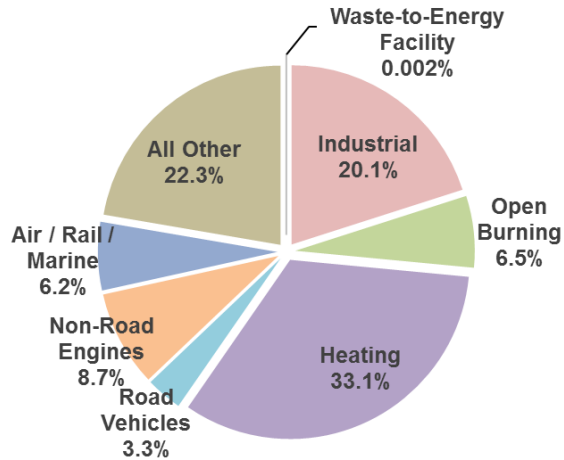
Loaded Fly Ash Trailers



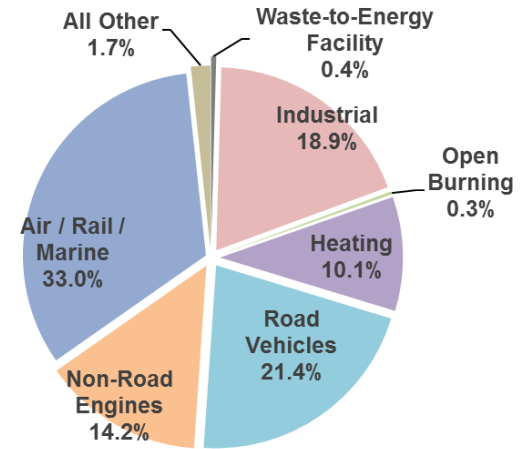
Fly Ash Composite Samples

WASTE-TO-ENERGY IN A REGIONAL CONTEXT

2020 Lower Fraser Valley Fine Particle Matter (PM2.5) Emissions Sources

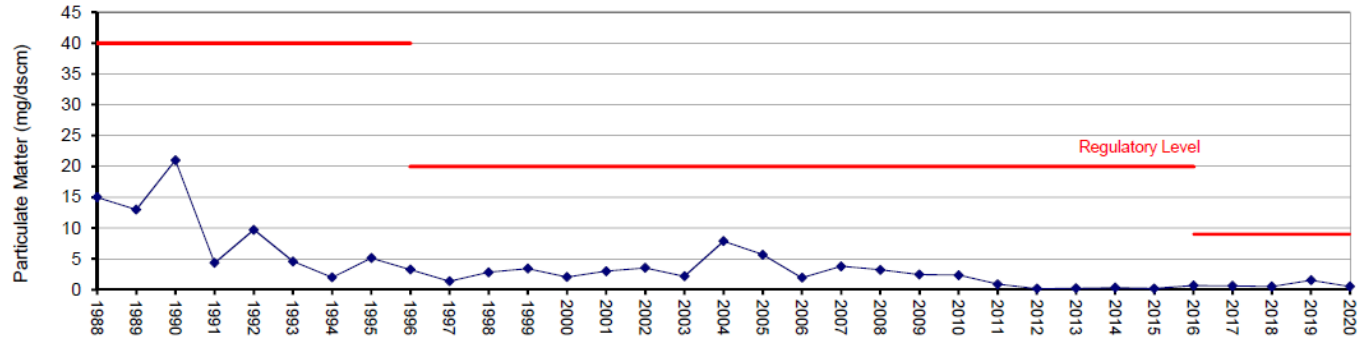


2020 Lower Fraser Valley Nitrogen Oxides (NOx) Emissions Sources

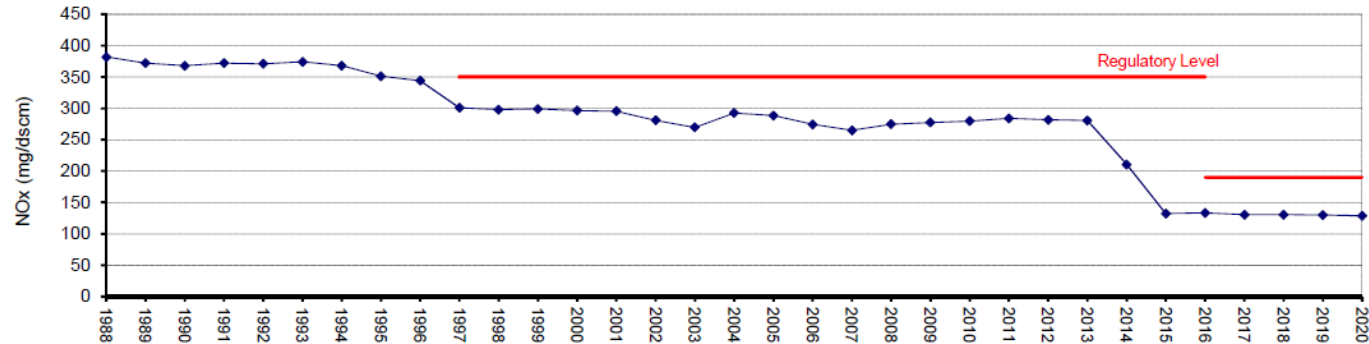


HISTORICAL TRENDS

Particulate Matter

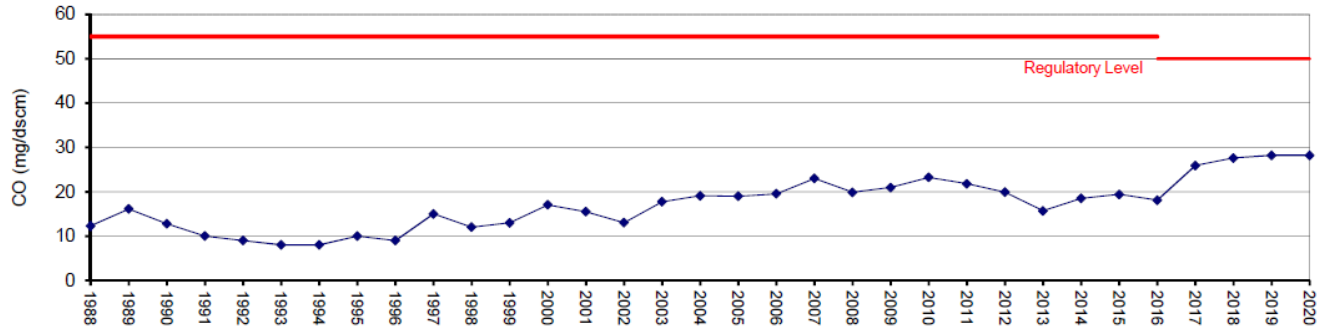


Nitrogen Oxides

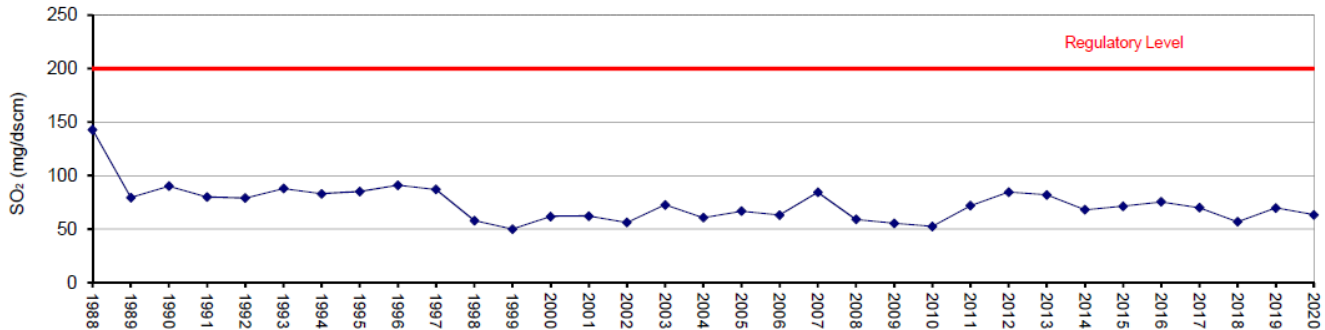


HISTORICAL TRENDS

Carbon Monoxide

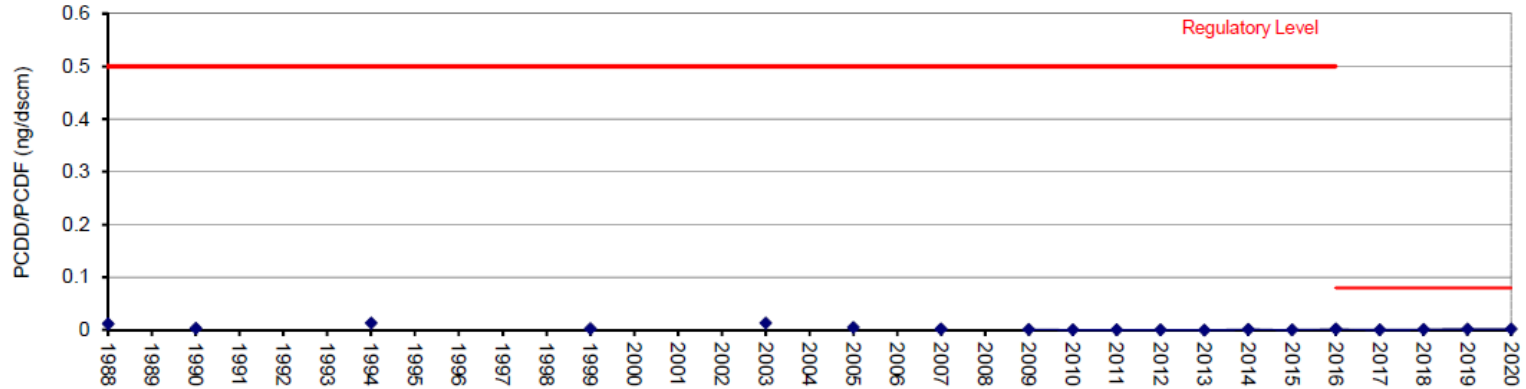


Sulfur Dioxide



HISTORICAL TRENDS

Dioxins/Furans



GREENHOUSE GAS EMISSIONS REPORTING

2020 Greenhouse Gas Emissions:

- 295,275 tonnes CO₂e
 - 47% anthropogenic
 - 53% biogenic (organic)
- Calculations verified independently
- Less than 1% of regional emissions

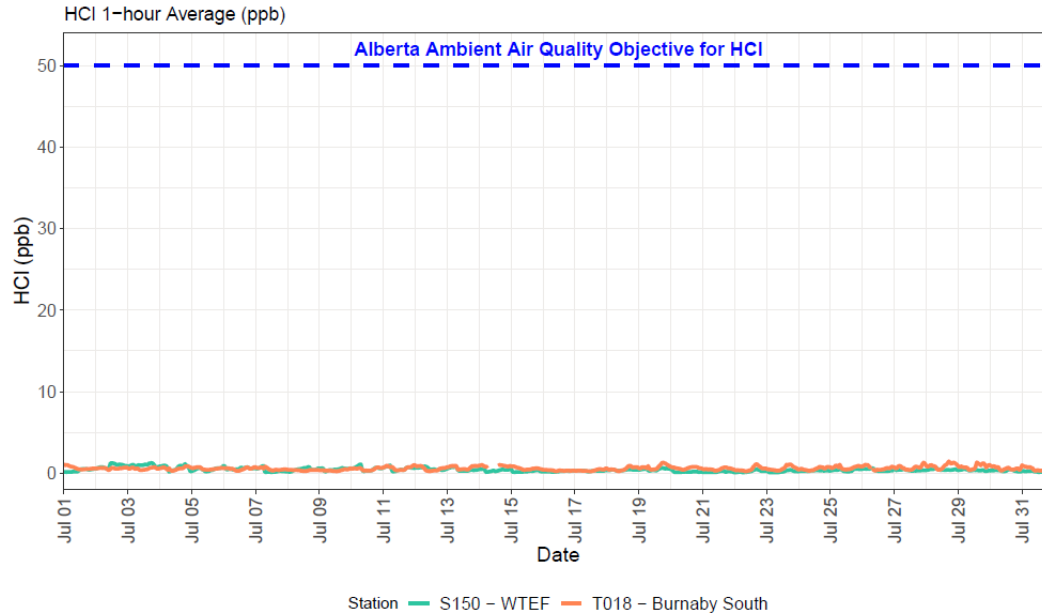
WASTE-TO-ENERGY FACILITY AMBIENT AIR MONITORING

- Waste-to-Energy Facility Operational Certificate amended in December 2020: Defers reduction in emission limits for hydrogen chloride and sulphur dioxide
- Enhanced ambient air monitoring started fall 2020 including new monitoring station at Waste-to-Energy Facility
- Data available on Metro Vancouver website
- Less than 5% of standard – less than modelled
- Consultant being engaged to review data

MONTHLY DATA – HYDROGEN CHLORIDE

HCl (hydrogen chloride) Monthly Summary - WTEF and Burnaby South

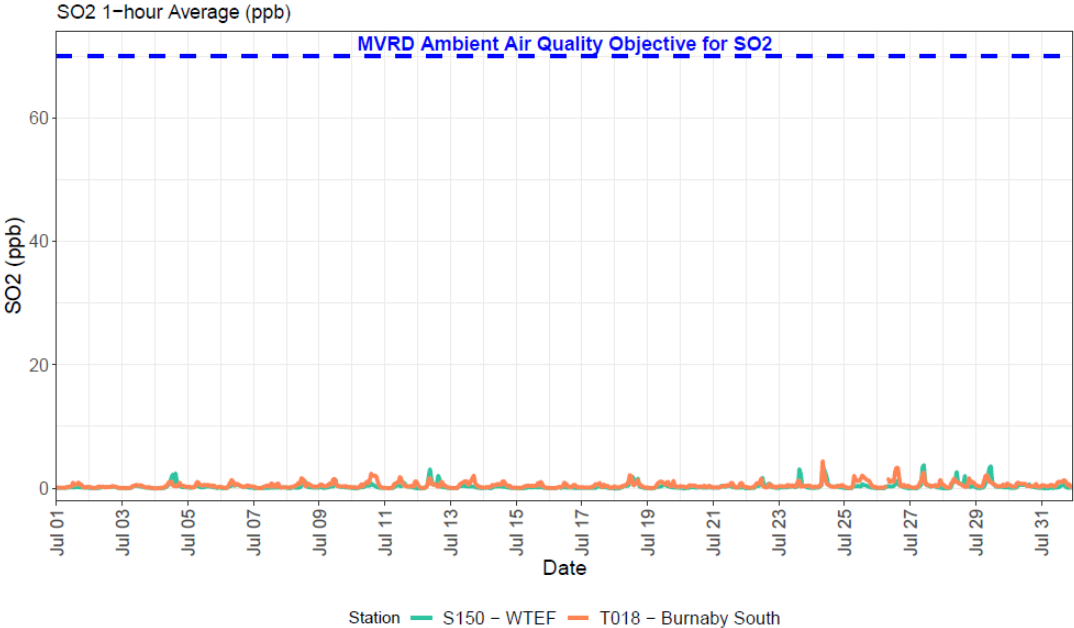
Metro Vancouver does not have an ambient air quality objective for hydrogen chloride (HCl). The Province of Alberta has a 1-hour objective for HCl of 50 ppb.



MONTHLY DATA – SULPHUR DIOXIDE

SO2 (sulphur dioxide) Monthly Summary - WTEF and Burnaby South

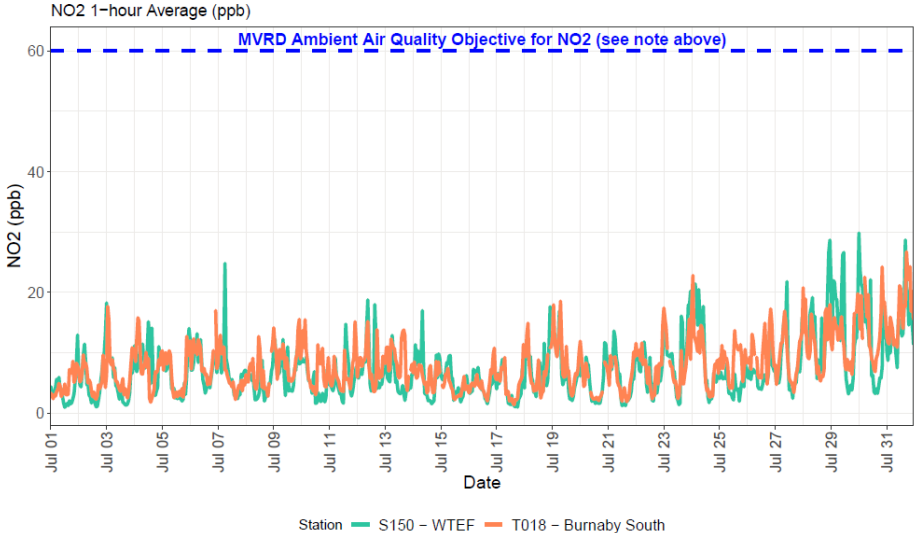
Metro Vancouver’s ambient air quality objective for 1-hour SO2 is a never to exceed objective. The dashed blue line in the figure below shows the numerical value of the SO2 objective, 70 ppb.



MONTHLY DATA – NITROGEN DIOXIDE

NO2 (nitrogen dioxide) Monthly Summary - WTEF and Burnaby South

Metro Vancouver’s ambient air quality objective for 1-hour NO2 is based on the analysis of three consecutive years of data, the annual 98th percentile of the daily maximum 1-hour concentration is averaged over three consecutive years. The dashed blue line in the figure below shows the numerical value of Metro Vancouver’s 1-hour NO2 ambient air quality objective (60 ppb). If the preliminary NO2 data shown in this report has a concentration above the numerical value, it does not necessarily indicate an exceedance of the Metro Vancouver objective. Achievement of the objective is determined at the end of each calendar year.



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Metro Vancouver Waste-to-Energy Facility

Thank you

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Together we make our region strong



Illegal Dumping in Metro Vancouver

METRO VANCOUVER

Adriana Velázquez, P.Eng M.Eng

PROJECT ENGINEER, SOLID WASTE SERVICES

Zero Waste Committee Meeting, September 10, 2021

Orbit Link: <https://orbit.gvrd.bc.ca/orbit/llisapi.dll/app/nodes/29927316>

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Metro Vancouver Role

- Ongoing data collection and analysis
- Waste In Its Place campaign
- RCBC where to recycle resources



Illegal Dumping

2020 at a glance

- Incidents increasing over time
- Some municipalities have seen reductions with new programs
- Some increases due to improved reporting practices (e.g. online reporting tools)

47,000
incidents



720 incidents
abandoned
gypsum

Illegal Dumping

2020 at a glance

- Average increase in clean-up costs of 4.7%/yr over last 3 years
- Municipalities spent \$6.1M in total

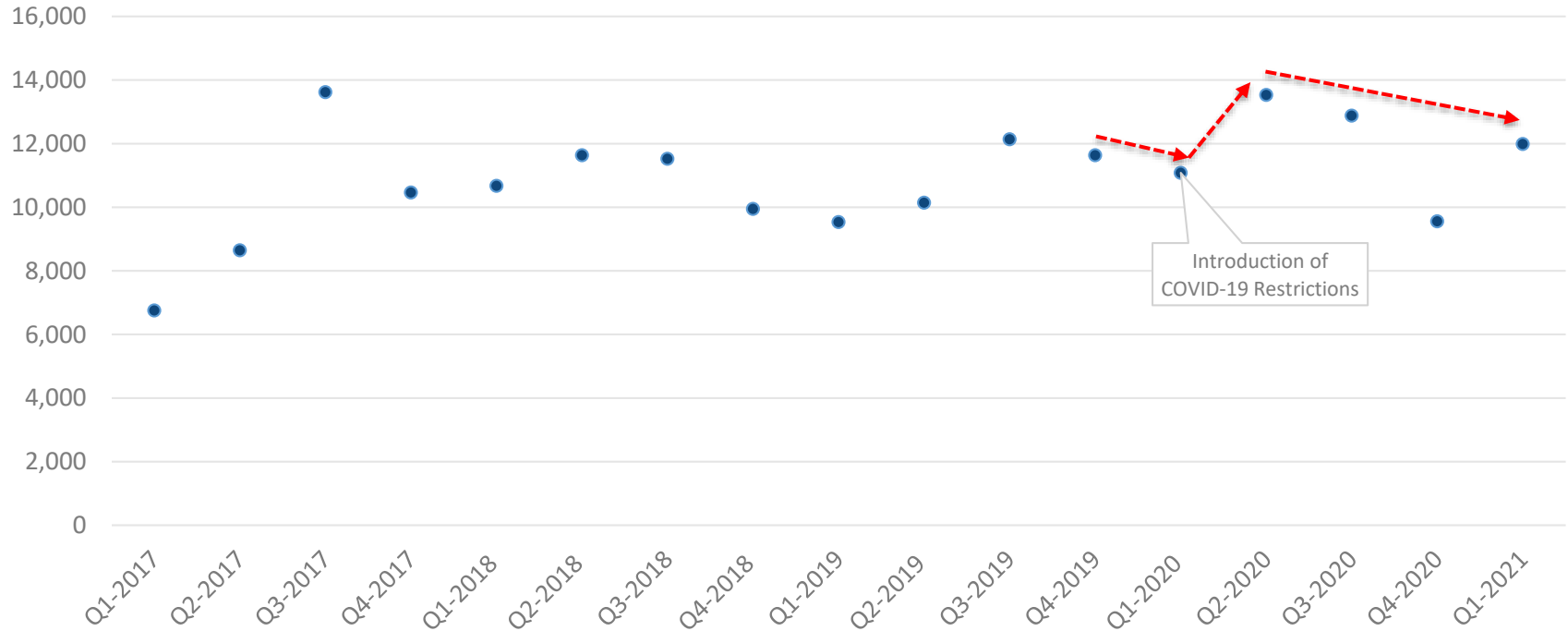
\$3.6 million
clean-up costs



\$2.5 million
large item
pick-up programs

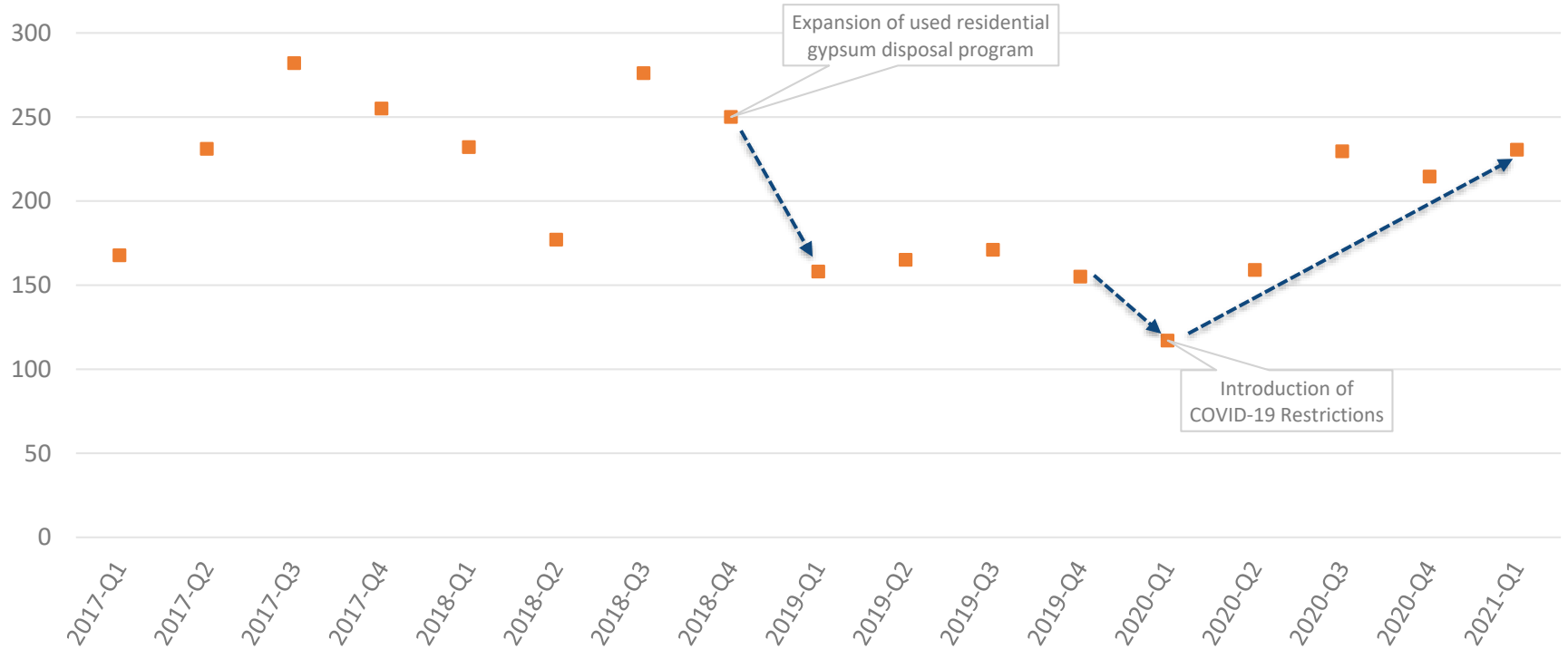
Illegal Dumping Activity in Metro Vancouver

Shown in number of incidents per month



Abandoned Gypsum in Metro Vancouver

Shown in number of incidents per month



Most Frequently Reported Abandoned Items

List of top 10 items in 2020



Municipal Preventive Initiatives and Enforcement



Large item
pick up
programs



Signage



Drop-off
events and
recycling
depots

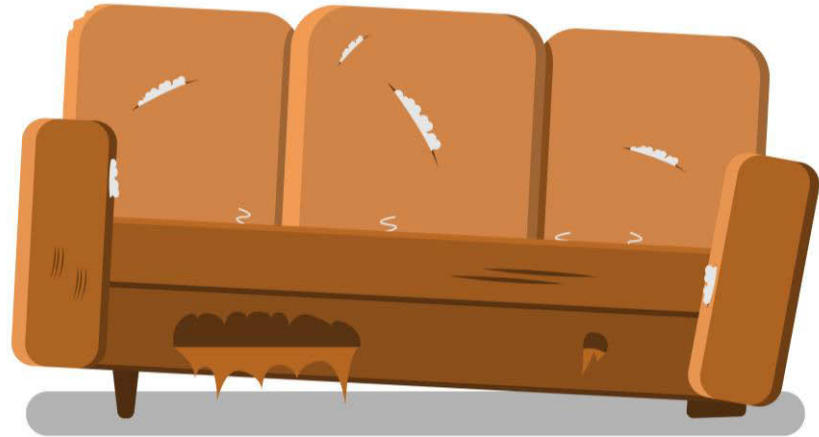


Education
and
enforcement

Municipal Workshop Outcomes

Implementing:

- Automated data management
- Cost estimating tool



Cost of disposal?

\$15



North Shore Recycling and Waste Centre

Thank you!

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Together we make our region strong

Click [here](#) to view the 2020 Zero Waste Conference Overview video that was part of 5.7 2021 Zero Waste Conference Update.