

Aamjiwnaang
First Nation
developing its
own path to
Reconciliation
and
Environmental
Justice

October 21, 2021

Ontario Association for Impact
Assessment (OAIA)

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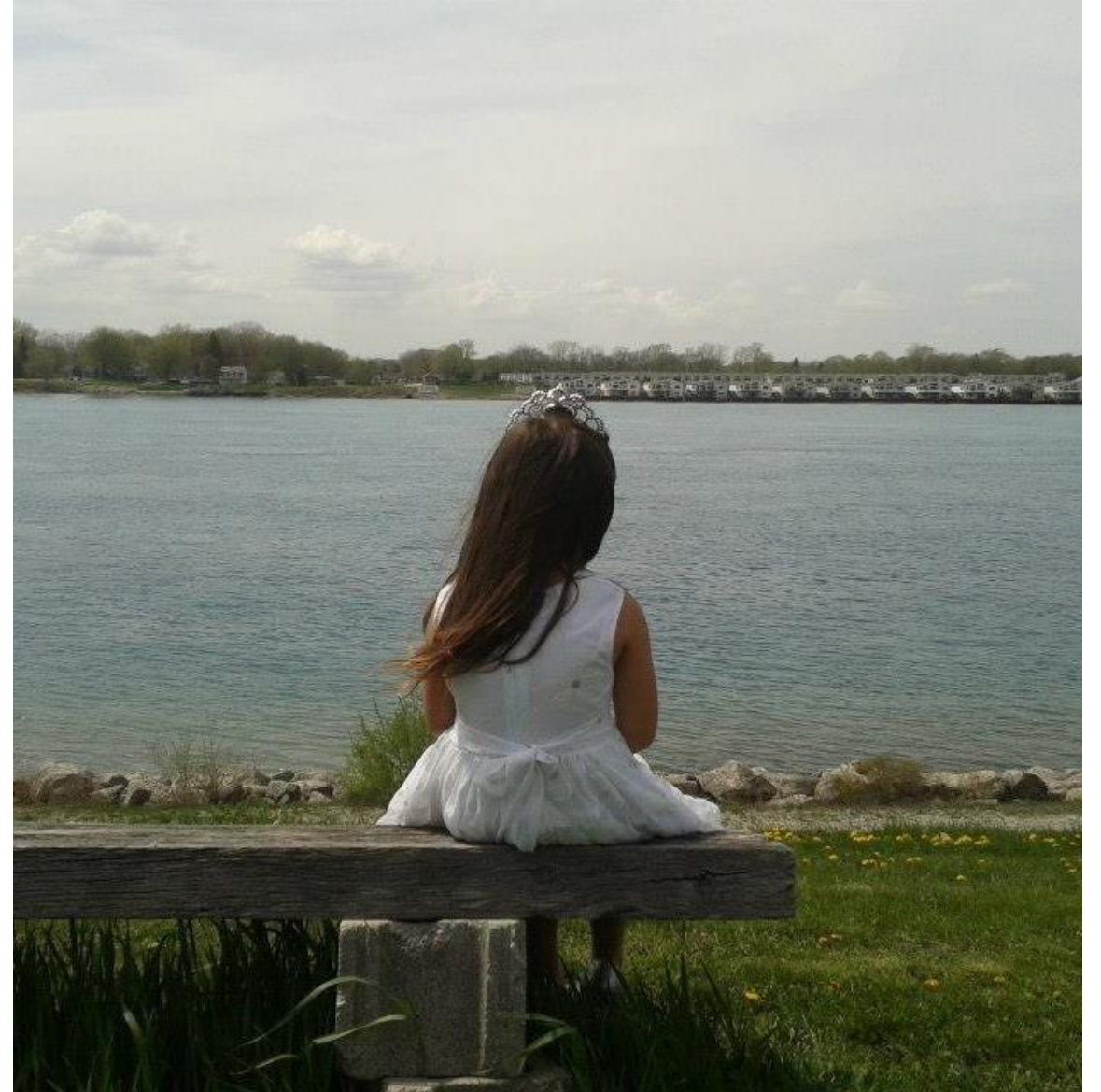


Overview

- Who and where is the Aamjiwnaang First Nation
- Reports from Ontario's Environmental Watchdog
- Attention from the United Nations (UN)
- Cumulative Effects: Air Quality Impacts on the Aamjiwnaang First Nation
 - Comparison of Aamjiwnaang Air Pollution levels with other similar communities
- Work of the Aamjiwnaang Environment Committee and Environment Department
- Path Forward: Aamjiwnaang's New Approach



Aamjiwnaang
“where people
meet by flowing
water”





Aamjiwnaang First Nation

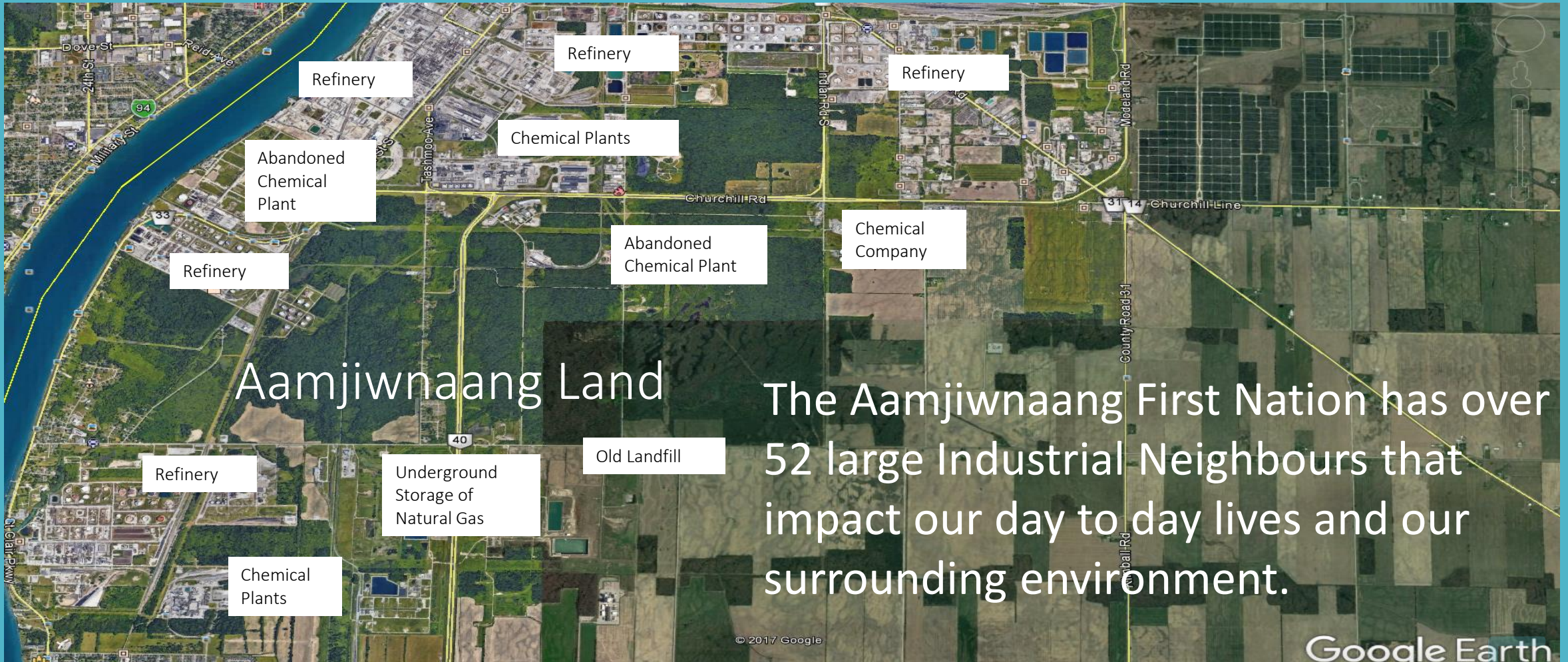
Located along the shores of the St. Clair River and Lake Huron.

Our community and neighbouring nations would meet for trade, relationship building and ceremony. Our ancestors have inhabited this region since the time of the Great Migration and there are many historically important sites throughout our traditional territory.

The archeological site under the bridge is the most significantly rich and important site in North America

Aamjiwnaang has approximately 2300 band members with about 950 that live on Aamjiwnaang Territory.

Location of Aamjiwnaang First Nation



Refinery

Hazardous waste Landfill

The Aamjiwnaang Environment Department

Established in 2007 with a mandate to:

- study, preserve, and protect traditional species and their habitat.
- to implement community engagement around environmental projects and to provide outreach and education regarding projects proposed in the area.
- provide technical expertise to Chief and Council regarding Environmental impacts that infringe on aboriginal lands, resources, and treaty rights.
- Often triggers the duty to consult.
- Have consultation staff that implement and start consultation process
- Consultation protocol (2010 version) updated and improved in June 2017



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Introduction – Environmental Justice

- If you live on or near the Aamjiwnaang First Nation territory, you cannot choose the air you breathe. Local industries emit hundreds of air pollutants every day ... all day long.
- Sulphur dioxide, benzene and 1,3 butadiene are particularly significant due to the risks that they pose to human health and the relatively large amounts that are emitted in the Sarnia area.
- Community members also question the cumulative impact of the multitude of contaminants they are exposed to every day.

Environmental Commissioner of Ontario (ECO)

- [2013/14 Managing New Challenges](#) - MOE Continues to Fail the Aamjiwnaang First Nation
 - *“The people of Aamjiwnaang suffer daily from the serious effects of the pollution that plagues their community. **Under today’s land use rules, it would be highly unlikely that this type of concentrated industrial development would occur in such close proximity to a residential community.** Yet, the Aamjiwnaang First Nation suffers a daily assault on their ancestral land as a result of this disturbing historical legacy, coupled with contemporary indifference.”*
 - *“... the Aamjiwnaang First Nation still faces a number of unknowns about their past and present exposure to toxic airborne chemicals. They cannot even be sure that the community warning sirens are reliable or that the government will communicate openly and promptly about its environmental findings. **Such a situation would be intolerable for any community, but in light of the particular historical context of this case, it is truly shameful.**”*

Environmental Commissioner of Ontario (ECO)

- **2015-16 Small Steps Forward**

- “The MOECC has not completed *EBR* reviews from as far back as 2009, leaving Ontario residents hanging and important policy issues unresolved. One relates to the shameful impact of Sarnia air pollution on the health of the First Nations community of Aamjiwnaang and other similar air pollution hotspots.”

- **2017 Good Choices, Bad Choices** - Environmental Injustice -
Aamjiwnaang: A Community in Harm’s Way

- “... the dire case of Aamjiwnaang First Nation’s residential community, which is known as an air pollution “hot spot” due to the cumulative effects of air emissions from multiple heavy emitters operating in close proximity to the community.”
- “... Aamjiwnaang is among the most polluted places in Ontario because of the large number of heavy industries located so close to the residential community. **This situation is a legacy of land use planning decisions that would never be allowed today. ..**”

Environmental Commissioner of Ontario (ECO)

- **2018 Back to Basics** - Air Pollution Hotspots
 - “The ministry asserts that the new cumulative effects policy addresses many of the issues raised in the application for review. However, under the new policy, industry in the Sarnia/Corunna area (near the Aamjiwnaang First Nation) will not be required to implement any enhanced pollution controls.”
 - “The ECO recommended that the MECP work with Aamjiwnaang to improve transparency and trust between the ministry and the community.”
 - “The ministry’s delay in completing its review was unreasonable and showed disrespect to those affected.”

Environmental Commissioner of Ontario (ECO)

- **2019 An Overview of Environmental Issues in Ontario** - Air pollution “hotspots”
 - “... areas located close to heavy industrial emitters, experience disproportionate health and environmental impacts from air pollution. For example, some of the worst air pollution in Canada is found in Sarnia’s “Chemical Valley,” home to the Aamjiwnaang First Nation.
 - This community has experienced higher-than average hospital admissions for respiratory and cardiovascular illnesses from 1996 to 2000, higher-than-average cancer rates from 1986 to 1992, and a decline in the sex ratio of babies, with two girls born for every boy from 1999 to 2003. **The province is working on a project to study “the links between the environment and health in the community,” expected to be completed in late 2021 or early 2022.**
 - Since 2018, industrial facilities in air pollution hotspots have started to be required to account for other nearby sources of emissions (**i.e., cumulative effects**) when seeking approvals to emit more contaminants to air, but the new requirements are limited to only new or expanding facilities in the hotspots, and to two types of toxic emissions.”
- **2020** –
 - **The role of ECO was transferred to the Provincial Auditor. There was no mention of Aamjiwnaang in the 2020 report.**

United Nations

- June 6, 2019, the UN [Special Rapporteur report on human right and hazardous substances](#):
- **“Sarnia.** The condition of the Aamjiwnaang First Nation in Sarnia is deeply unsettling. Deeply connected with their land, residents on the reservation are now surrounded on three sides by over 60 industrial facilities that create the physiological and mental stress among community members regarding the risk of impending explosions or other disasters, as well as a wide variety of health impacts from unquestionably poisonous chronic exposures. It is one of the most polluted places in Canada, dubbed “chemical valley.”... It is acknowledged that existing regulations do not protect the health of Aamjiwnaang.”
- September 4, 2020 final UN [“Report of the Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes on his visit to Canada 2020”](#):
- “The situation of the Aamjiwnaang First Nation in Sarnia is profoundly unsettling. ...” “The overlapping jurisdictions among the territories, the provinces and the federal Government, notwithstanding the cross-jurisdictional impacts of toxic exposure, contribute to the lack of clarity on the proper forum for seeking justice.”
- In 2016, Canada adopted the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) in 2016. In 2020, Canada put forward a Bill to implement UNDRIP. The bill acknowledges the application of the UN declaration in Canada and calls for the alignment of the laws of Canada with the UN declaration. This includes the Crown’s jurisdiction to regulate emissions from industry.

Supreme Court Decision in British Columbia

- [2021 BCSC 1287 – Yahey vs British Columbia](#)
- “I find that the Province’s conduct over a period of many years – by allowing industrial development in Blueberry’s territory at an extensive scale without assessing the cumulative impacts of this development and ensuring that Blueberry would be able to continue meaningfully exercising its treaty rights in its territory – has breached the Treaty”

Cumulative Effects

- People on Aamjiwnaang First Nation often ask what the cumulative impact of these chemicals on my health?
- The cumulative effect of the combined exposures of numerous compounds is uncertain but may increase the risks to the community.
- For example,
 - the science indicates that both benzene and 1,3 butadiene have similar carcinogenic endpoints of leukemia; and
 - There have also been excessive exposure to contaminants such as benzene and 1,3 butadiene and sulphur dioxide for decades.
- In March 2018, Ontario published a cumulative effects policy which did not require any additional actions reduce any emissions for Aamjiwnaang. The policy also excluded sulphur dioxide and 1,3-butadiene.
- Despite a commitment to review the current cumulative effects policy in two years (April 2020), no further action has been communicated.

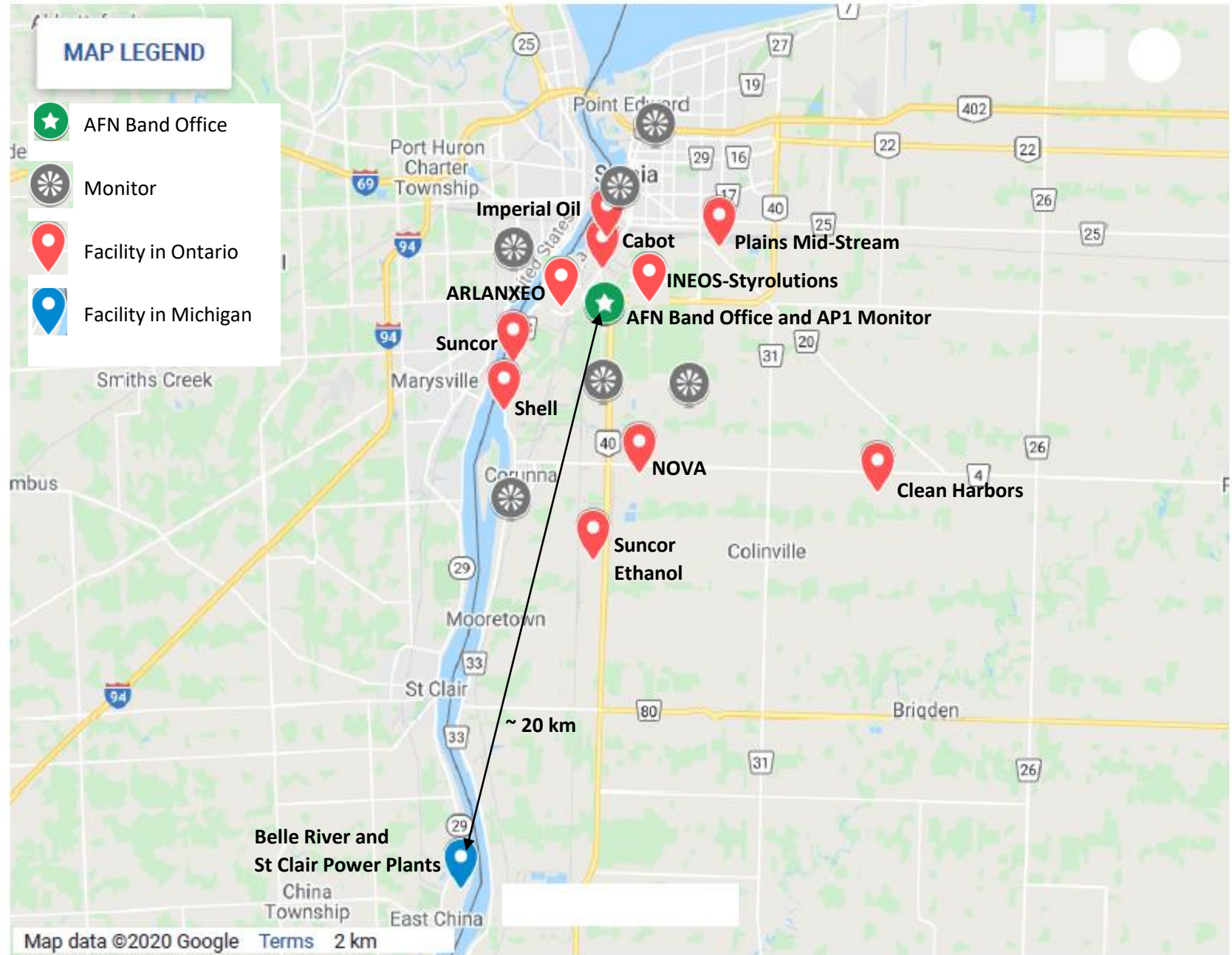
Aamjiwnaang First Nation proposed path to Reconciliation and Environmental Justice

- The Crown (which includes various federal, provincial and municipal governments) have failed to protect Aamjiwnaang First Nation from the impacts of air contaminants from the large concentration of nearby petroleum refineries and chemical plants.
- The United States Environmental Protection Agency (US EPA) has operated a Tribal Program, since the mid-1980's, that provides capacity funding and support for US Tribes to implement US federal environmental rules and their own environmental protection policies and standards.
- Such a program would,
 - be a reasonable alternative to supplement and replace various federal, provincial and municipal agency programs which continue to fail the Aamjiwnaang First Nation; and
 - foster a nation-to-nation relationship with Aamjiwnaang and implement key aspects of the UN Declaration on the Rights of Indigenous Peoples.

Comparisons to Other Communities

MONITORING DATA

Map of Facilities and Monitors in the Vicinity of the Aamjiwnaang First Nation



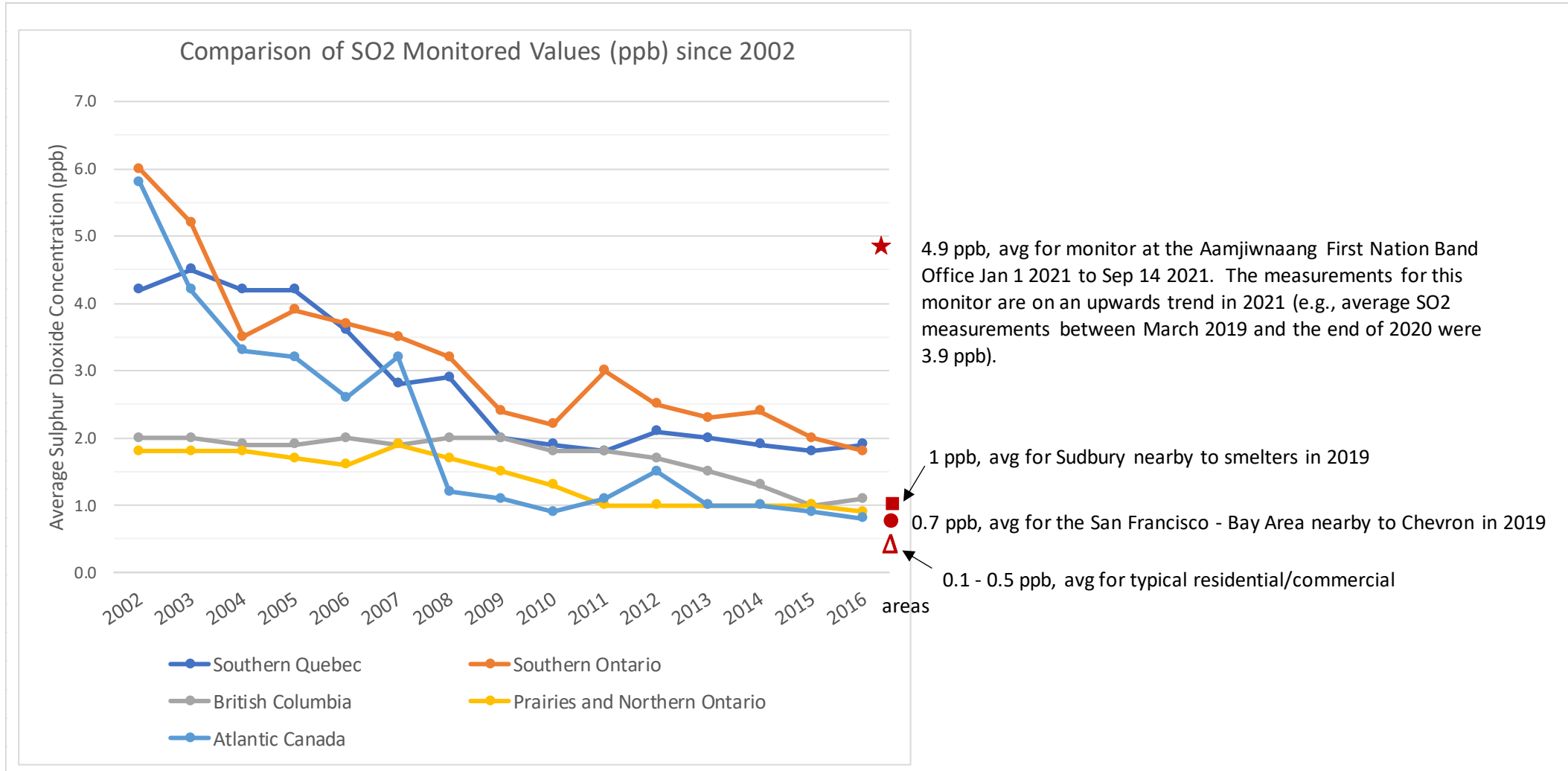
Where Does Aamjiwnaang's Monitoring Data Come From?

- Benzene and 1-3 Butadiene:
 - Aamjiwnaang Environment Department advocated, during the development of the Ontario Petro-Chemical Industry Standards, for benzene and 1,3 butadiene monitors along the fenceline of various nearby petroleum refineries and chemical plants.
- Sulphur Dioxide (SO₂):
 - Aamjiwnaang has also been advocating for improved SO₂ monitoring as a result of ongoing concerns with acid gas flaring and exceedances of the US SO₂ standards (i.e. non-attainment) measured nearby in Port Huron, Michigan.
 - The Canadian federal government has not been transparent with respect to the Sarnia area petro-chemical facilities contribution to the Port Huron non-attainment.
- New monitors near the Aamjiwnaang First Nation are measuring much higher levels of benzene, 1-3 butadiene and SO₂ than expected including SO₂ levels in the “red-zone” for the SO₂ Canadian Ambient Air Quality Standard (CAAQS).

Comparison Communities

- The situation at the Aamjiwnaang First Nation Community was compared to:
- **Other Canadian cities:** monitoring trends across Canada in communities with no heavy industry. Compared Ontario background levels of benzene and 1,3 butadiene. In addition, compared sulphur dioxide levels in Sudbury, Ontario where reported sulphur dioxide emissions are ~64% for all of Ontario.
- **Contra Costa County (Bay Area), California (CA):** community with five petroleum refineries. Combined refining capacity is three times more than Sarnia area refineries. Compared benzene and sulphur dioxide levels.
- **Louisville, Kentucky (“Rubbertown”):** community with two petrochemical facilities that produce synthetic rubber. Combined production capacity is ~40-50% greater than the Arlanxeo facility in Sarnia. Compared 1,3 butadiene levels.

Sulphur Dioxide Concentration Comparisons



Comparison: IOL-Sarnia-ON vs BP Whiting-Indiana

- The Imperial Oil Ltd (IOL) petroleum refinery in Sarnia, Ontario and the British Petroleum (BP) refinery in Whiting, Indiana are similar in that they both use cokers to process a wider range of crude oil slates and to refine a greater fraction of the carbon in the crude oil to higher end petroleum products.

Facility	2017 Reported SO2 Air Emissions	Daily Refining Capacity	SO2 Emission Factor
	Tonnes per Year	Barrels	Tonnes/Million barrels processed
BP - Whiting	323	430,000	2
Imperial Oil – Sarnia	8,844	120,000	202

- However, on a unit production basis, IOL Sarnia SO2 air emissions are a hundred times higher than for BP – Whiting.

Impact of Reducing SO₂ Air Pollution

- There are studies that show removing or reducing sulphur dioxide levels in a community can have a direct health benefit.
- A study in Oakville, Ontario (published in 2018) showed a reduction in hospital visits when a local petroleum refinery shut down in 2004-5. It showed that "after accounting for trends, a decrease in ... respiratory hospitalizations was observed for Oakville (reduction of 2.2 cases/1000 persons per year...)".
- A Hong Kong (2002) case study showed that "pollution resulting from sulphur-rich fuels has an effect on death rates, especially respiratory and cardiovascular deaths. The outcome of the Hong Kong intervention provides direct evidence that control of this pollutant has immediate and long-term health benefits."

Comparison of Monitoring for Benzene and 1,3 Butadiene

Monitoring Data	Average Benzene Concentrations ($\mu\text{g}/\text{m}^3$)	Average 1,3 Butadiene Concentrations ($\mu\text{g}/\text{m}^3$)
Sarnia (near AFN)	10.4	0.82
Other US Communities (with heavy industry)	0.9 (Bay Area, California)	0.56 (Louisville, Kentucky)
Other non-industrial areas in Ontario	0.3-0.4	0.03

What the Monitoring Data Near the AFN Shows?

- Sulphur dioxide:
 - ~10 times higher than other communities such as Ottawa and Toronto
 - ~6 times higher than US community with heavy industry (Contra Costa, CA)
- Benzene:
 - ~30 times higher than other communities such as Ottawa and Toronto
 - ~10 times higher than US community with heavy industry (Contra Costa, CA)
- 1,3 Butadiene
 - ~27 times higher than other communities such as London and Ottawa
 - ~1.5 times higher than US community with heavy industry (Rubbertown)

Less Stringent Permits and Standards

- The air permits issued in Ontario and the enforcement of air pollution rules are significantly less stringent than in the United States (e.g., US Title V permits and consent decrees).
- In addition, Ontario's air quality standards for 1,3 butadiene, benzene and formaldehyde (a compound that can be created in the atmosphere from contaminants emitted by industrial facilities nearby to the Aamjiwnaang First Nation) are less stringent than the one-in-one million incremental inhalation cancer risk published by the US EPA Integrated Risk Info System (IRIS):

Contaminant	US EPA IRIS	Ontario
	($\mu\text{g}/\text{m}^3$)	($\mu\text{g}/\text{m}^3$)
1,3 Butadiene	0.03	2; annual
Benzene	0.13 – 0.45	0.45; annual
Formaldehyde	0.08	65; 24-hour

Work of the Aamjiwnaang First Nation Environment Committee & Environment Department

A Foundation to a Better Way

Highest priority facilities that require better control

- **INEOS-Styrolutions:** need to take action to reduce significant amounts of benzene air emissions from tanks (e.g. Tank 8) and process leaks.
- **Imperial Oil:** need action to reduce significant amounts of sulphur dioxide air emissions including acid gas flaring. Continue to monitor benzene emissions.
- **Cabot Carbon:** significant reduction in sulphur dioxide emissions needed.
- **Suncor and Shell:** need to ensure sulphur dioxide emissions from acid gas flaring are minimized.
- **Belle River Power Plant in Michigan:** advocate for better control of sulphur dioxide air emissions.
- **ARLANXEO:** need to reduce benzene air emissions from wastewater treatment and an investigation into the reduction of 1,3 butadiene air emissions.

Aamjiwnaang issued a Notice of Violation to INEOS-Styrolutions in September 2020

- Control Options for Benzene from INEOS-Styrolutions
- **Replace Tank 8 and install a fume collection and control system that can be linked to all of the storage tanks at this facility.**
- **Enhanced Oversight and Robust Auditing of the Leak Detection and Repair (LDAR) system at INEOS-Styrolutions.**
- **Install additional enhanced real-time monitoring of benzene to track down any other “fugitive” sources.**

Path Forward

Seeking an Improved Nation-to-Nation Relationship

Background to the US EPA Tribal Program

Observations

- A comparison of the available data shows there is a compelling case that the air at Aamjiwnaang First Nation could and should be improved.
- Other US jurisdictions have succeeded to better control emissions by imposing and enforcing stringent rules for industry.
- If we reduce the pollution, we reduce the risk of impacts on the Aamjiwnaang First Nation. Studies for sulphur dioxide show reducing emissions lead to improved human health.
- It is not clear why it is taking so long for actions to be implemented to address the concerns Aamjiwnaang has expressed for over a decade.
- As referenced in the UN report, various levels of government – local, provincial, and federal – do not seem to have a coordinated approach that works in the best interests of the community.
- There is enough information to show that action needs to be taken now.

New and Improved Collaboration on an Equal Footing

- Seeking an Improved Nation-to-Nation Relationship with the Crown.
- Aamjiwnaang is defining its own path to address ineffective government policies/regulations as the Crown has failed to protect Aamjiwnaang from environmental impacts.
- Overlapping provincial and federal jurisdictions contribute to the lack of clarity on the proper forum for seeking environmental justice.
- In response to egregiously high monitored values, Aamjiwnaang took initiative to issue a Notice of Violation to a local industry to abate air emissions.
- Aamjiwnaang is considering a pilot program to assert their right to develop and enforce their own environmental rules.
- The US has had a similar environmental Tribal program since 1984.