Ontario Ministry of the Environment, Conservation and Parks

Project Overview and Status Update

November, 2021

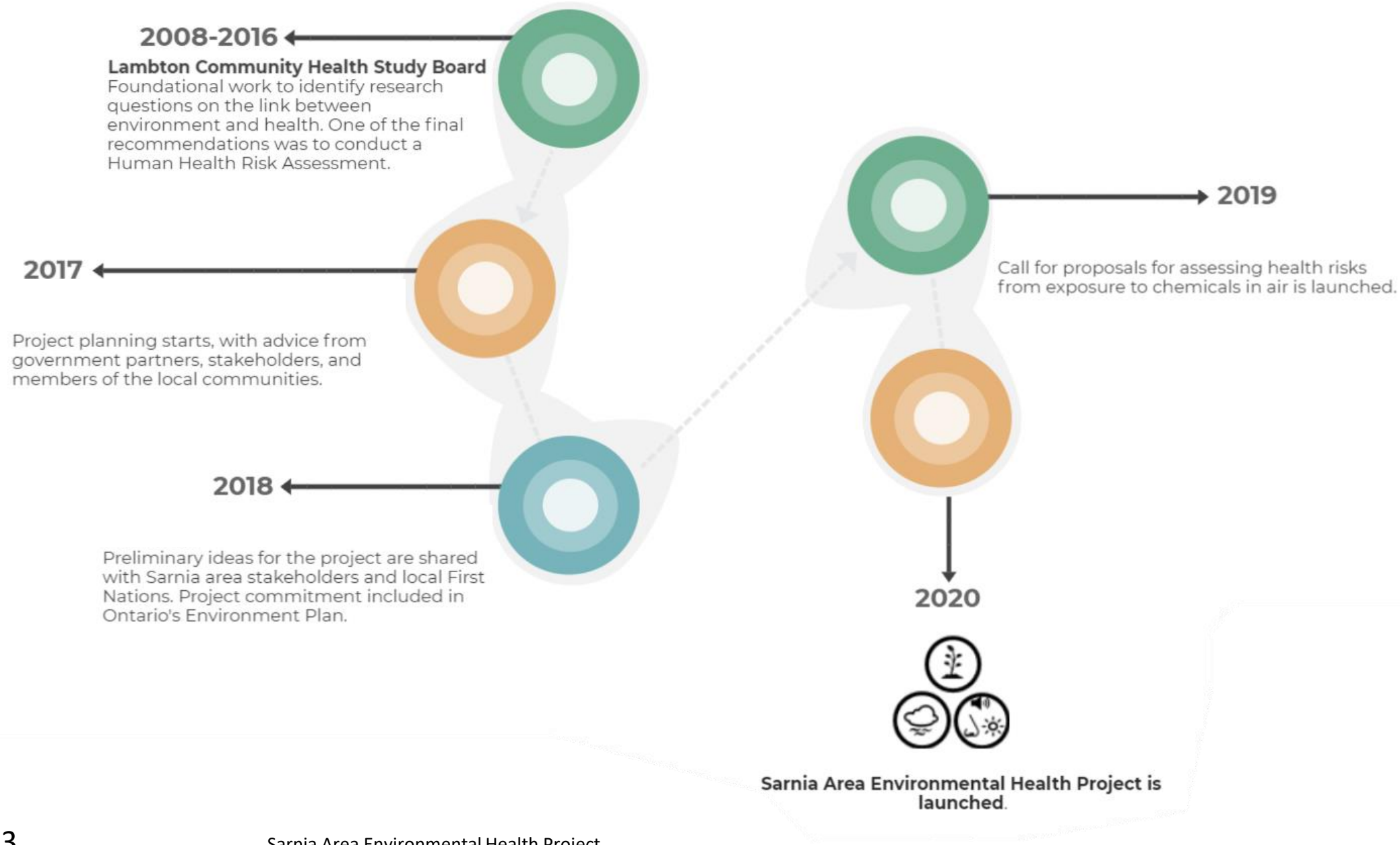
Community Information Meeting

Ontario

Purpose

- Provide an update on the Sarnia Area Environmental Health Project

Developing the Project – Timeline



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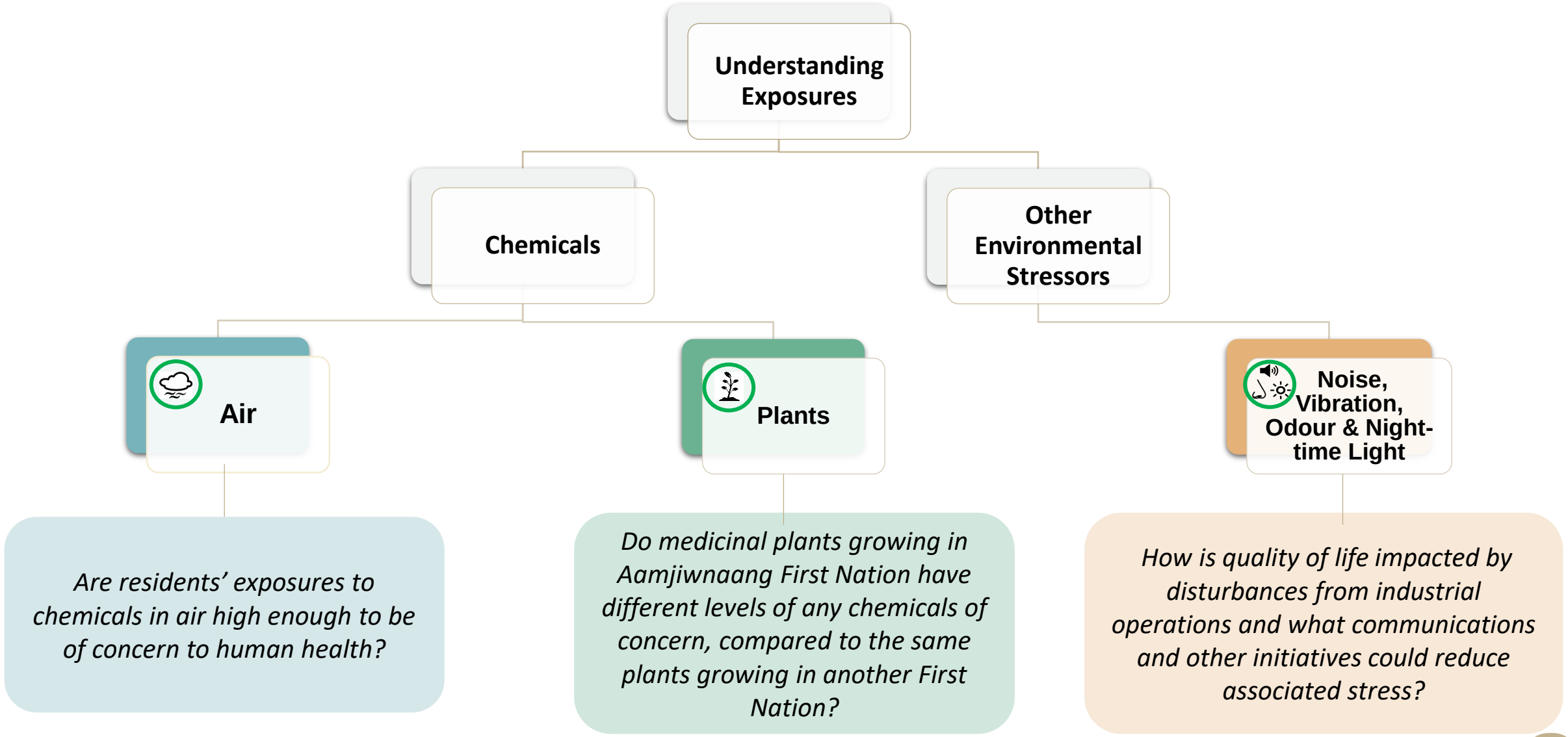
Project Components



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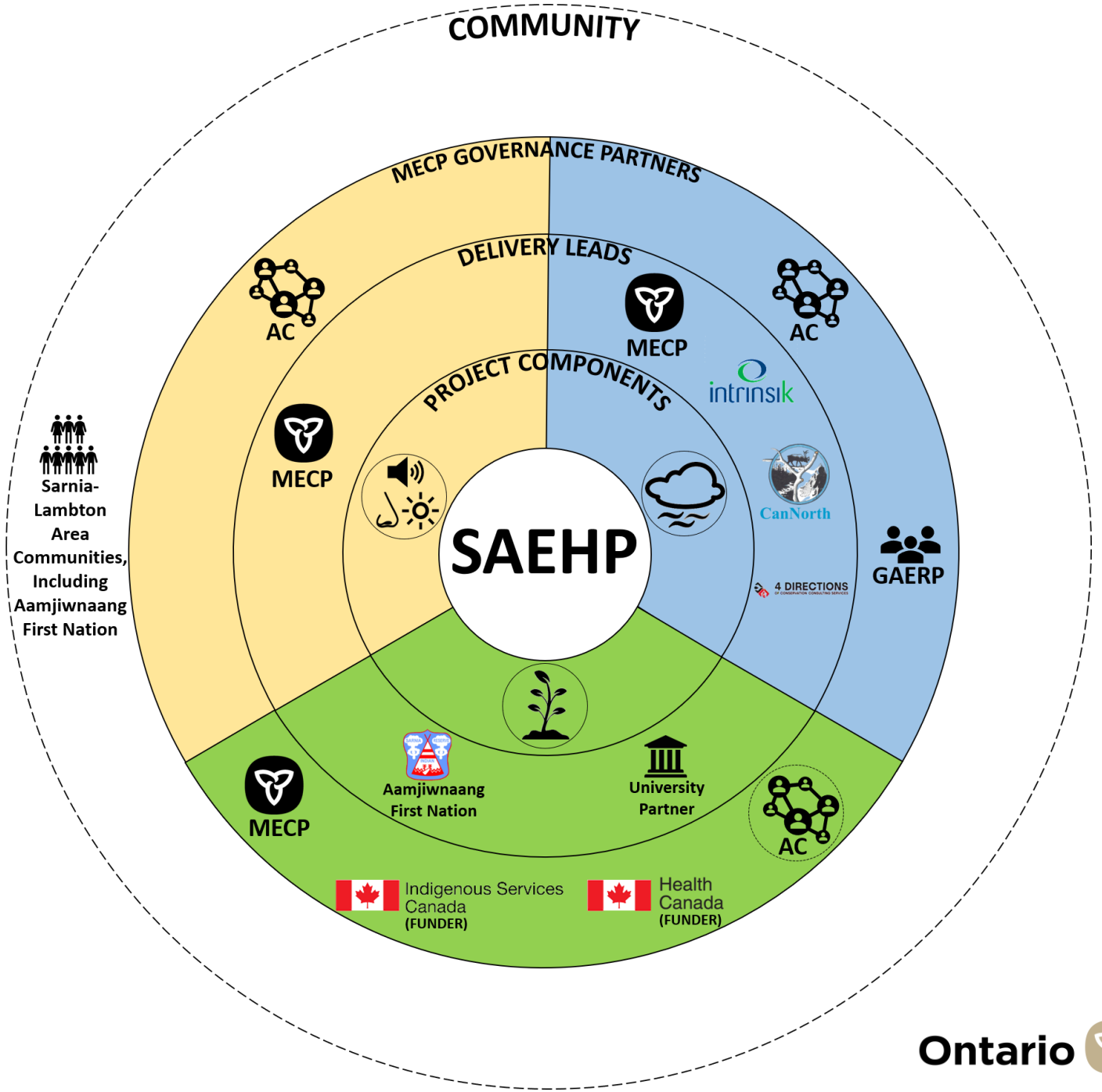
Project Governance

Government Air Exposure Review Panel (GAERP)

- Ministry of the Environment, Conservation and Parks (MECP)
- Aamjiwnaang First Nation
- Lambton Public Health
- Public Health Ontario (PHO)
- Health Canada (HC)

Advisory Committee (AC)

Co-chaired by an industry and community representative, membership includes provincial, municipal and federal governments, First Nations, health agencies, community groups, industry and environmental groups.



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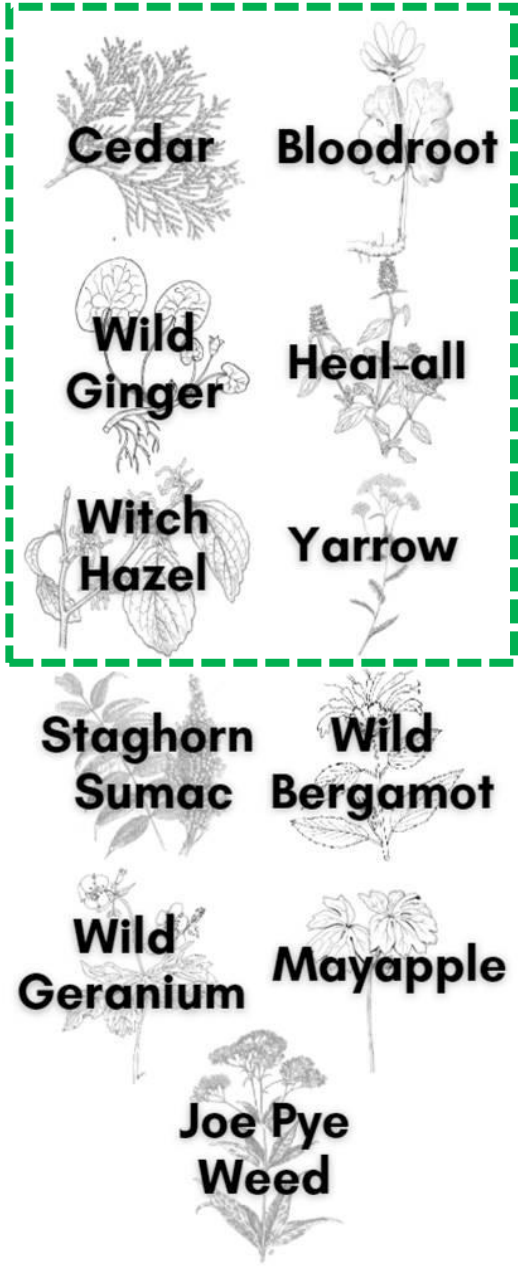
Plant Study: Overview and Status

- A comparison study of chemicals in medicinal plants growing in Aamjiwnaang First Nation to another First Nation community.
  - Aamjiwnaang First Nation has worked with the ministry and other partners to develop the study
  - Health Canada and Indigenous Services Canada are providing funding to an academic partner to carry out the study
  - Kettle and Stony Point First Nation is partnering as the comparison community



In Scope
- Medicinal plants

Out of Scope
- Overall diet (e.g., grocery store foods, garden produce, drinking water)

- In summer 2021, plants were sampled
- Six species (out of 11 sampled) were selected for analysis based on community input
- Laboratory analysis is now underway

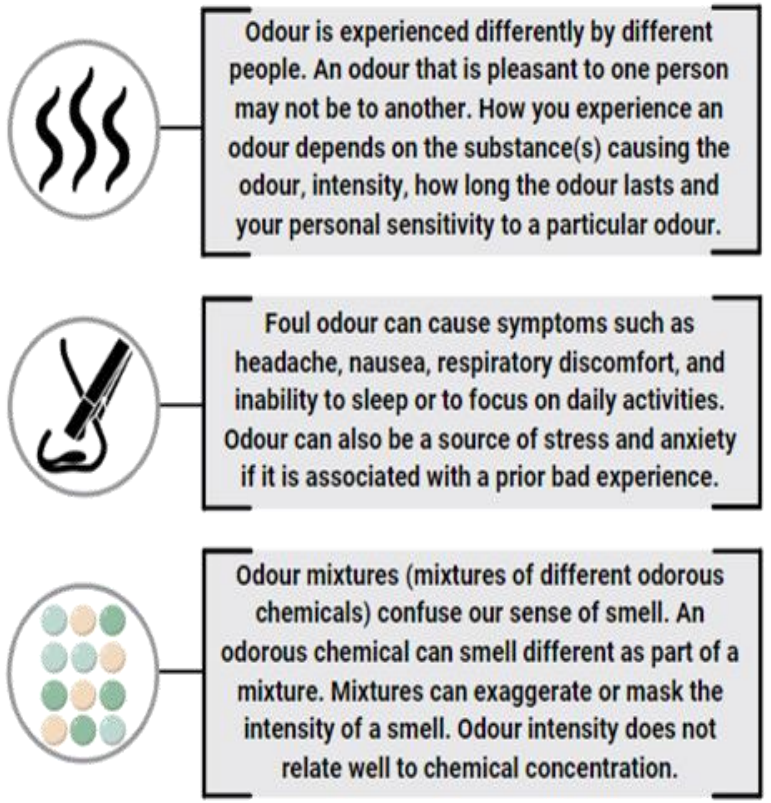
Environmental Stressors Review: Overview

- Considers how quality of life is impacted by disturbances from industrial operations (e.g., noise/vibration, odour, and light) to inform enhanced communications and other community initiatives.

In Scope	Out of Scope
• Environmental stressors associated with proximity to industry: noise/vibrations, odour, light	• Other environmental experiences that could be stressful, e.g., changing climate, loss of natural spaces

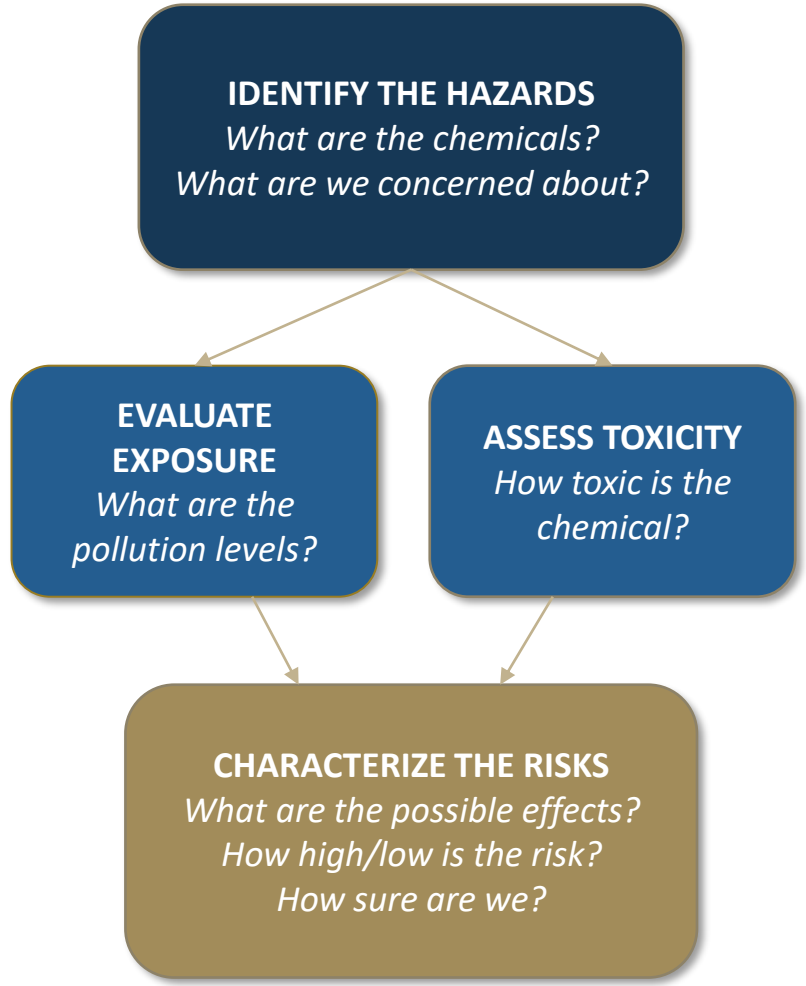
- Ministry is developing this part of the project with advisory committee members.
- Ministry is currently:
  - Completing analysis of complaints and compiling information about people's experiences
  - Preparing educational information about common disturbances
  - Next steps include working with the advisory committee on how environmental incidents/emergencies are communicated

Example of draft Educational material



Air Exposure Review: Overview

- An assessment of community exposures to chemicals in outdoor air, and associated health risks.
- Intrinsik, CanNorth and 4 Directions of Conservation are conducting the Review.
- Government partners (through the Government Air Exposure Review Panel) are working together to direct the consultants



In Scope

- Ambient (outdoor) air
  - Modelled and monitored air data
  - When possible, will consider industry, vehicles, local air emissions and regional (long-range pollutant transport)

Out of Scope

- Indoor Air (home or work exposures)
- Lifestyle-related exposures (e.g., smoking)

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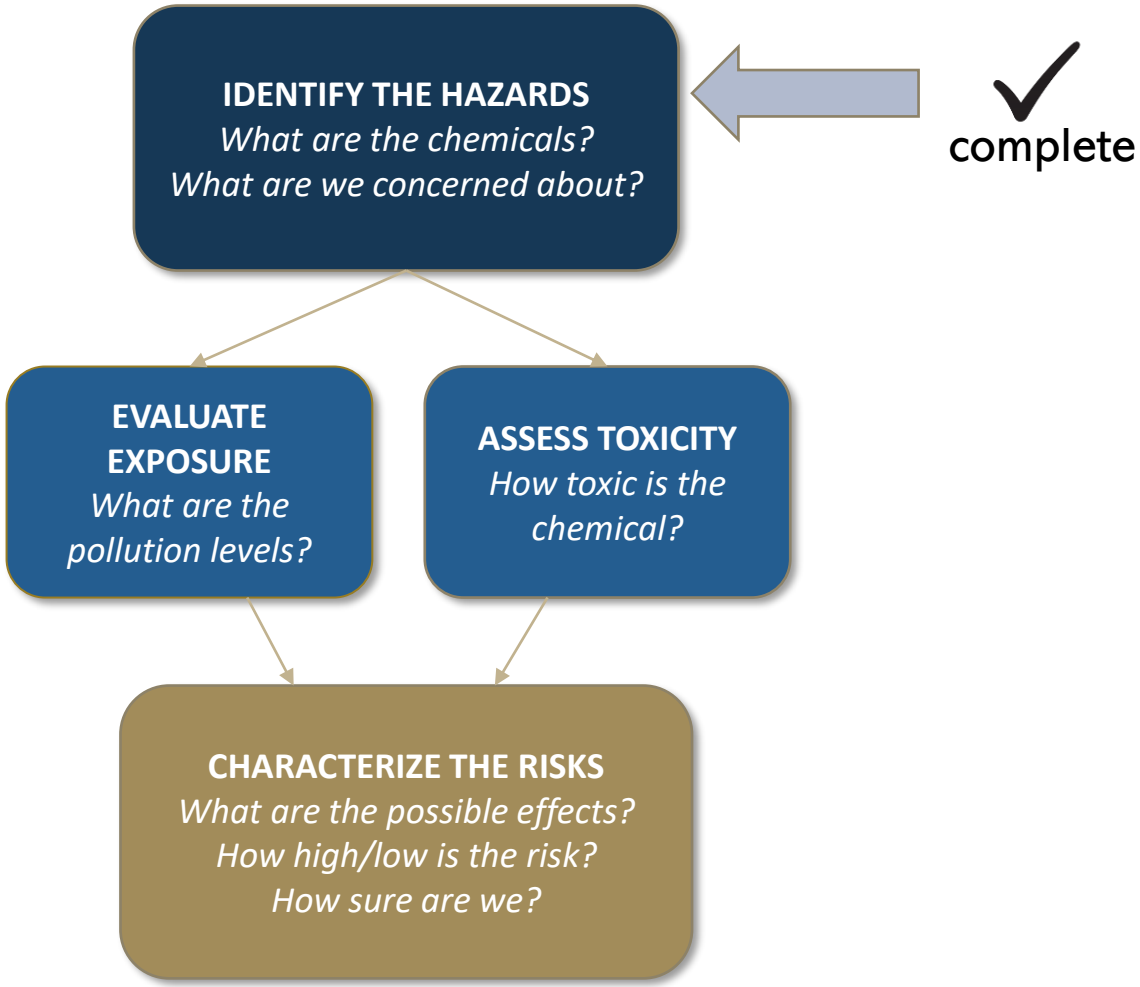
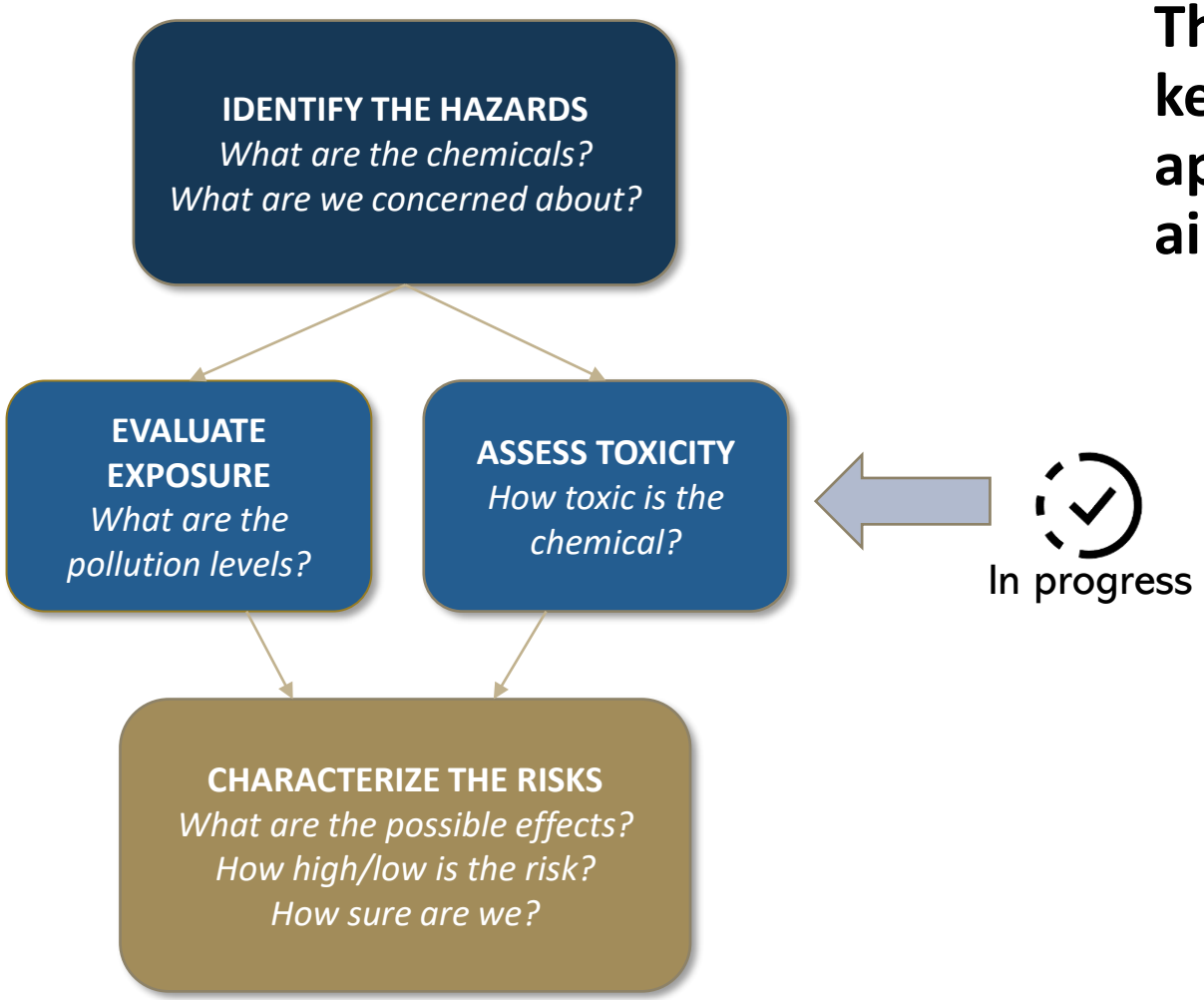
Air Exposure Review status updates: Identifying the hazards



The consultants completed the first stage of work, identifying the hazards as well as other scoping questions:

- Scoping Report (March 2021) includes:
  - Selection of key chemicals
  - Comparison areas to provide context
  - Overview of monitoring and modelling data

Air Exposure Review status updates: Assessing toxicity



The consultants reviewed the toxicity of key chemicals to independently select appropriate benchmarks to evaluate the air quality data

- Benchmark = concentration of a chemical below which no health effects would occur
- GAERP members provided input on benchmark selection

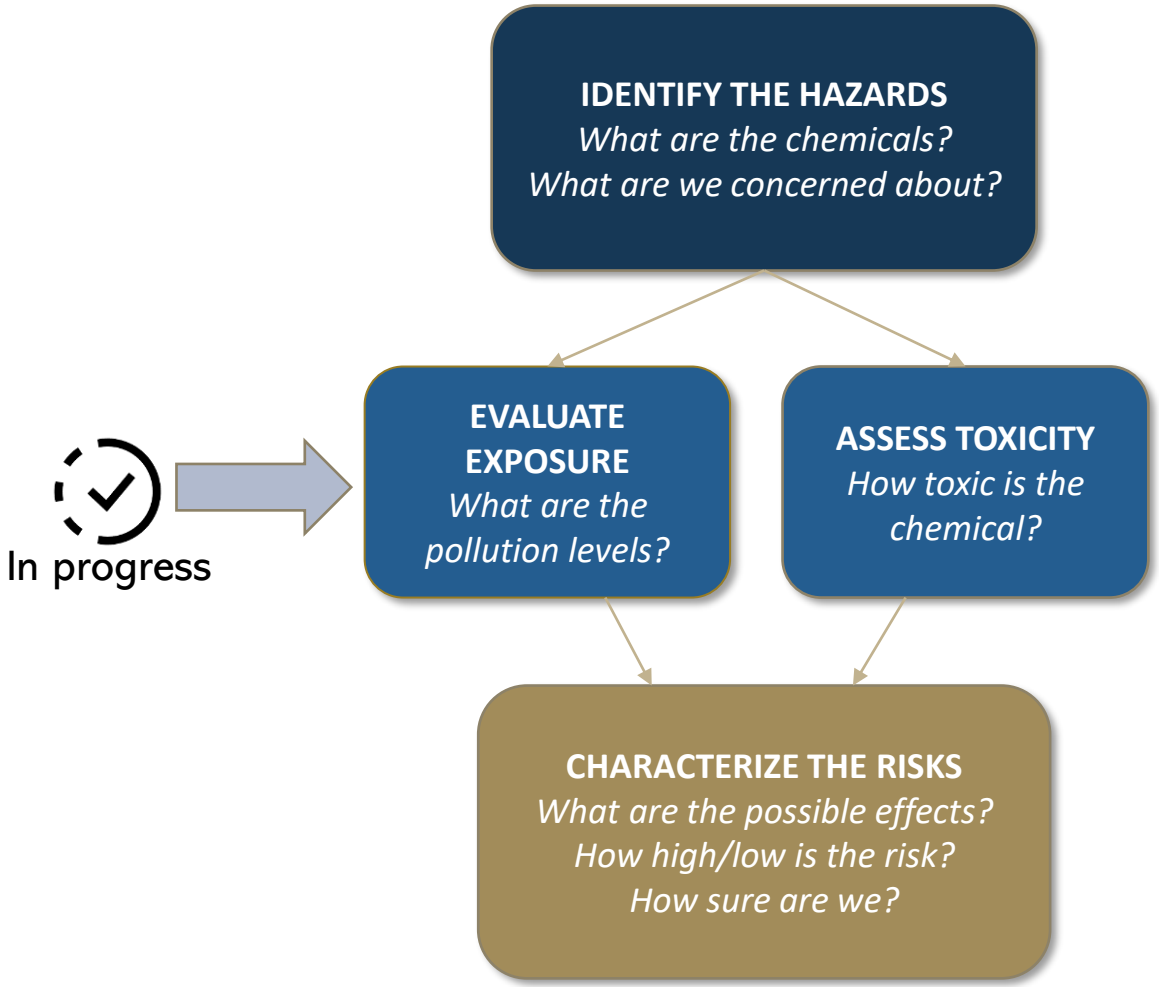
NOTE: Consulting team will provide an update on this work in a presentation today

Air Exposure Review status updates: Evaluating exposure

The ministry compiled air quality data and analyses, for the consultants to evaluate exposures:

- Provided air data on all **monitored** chemicals to the consultants
- **Modelled** five priority chemicals to estimate air quality impacts, across the entire study area, of multiple sources

NOTE: Ministry will provide an update on modelling work in a presentation today



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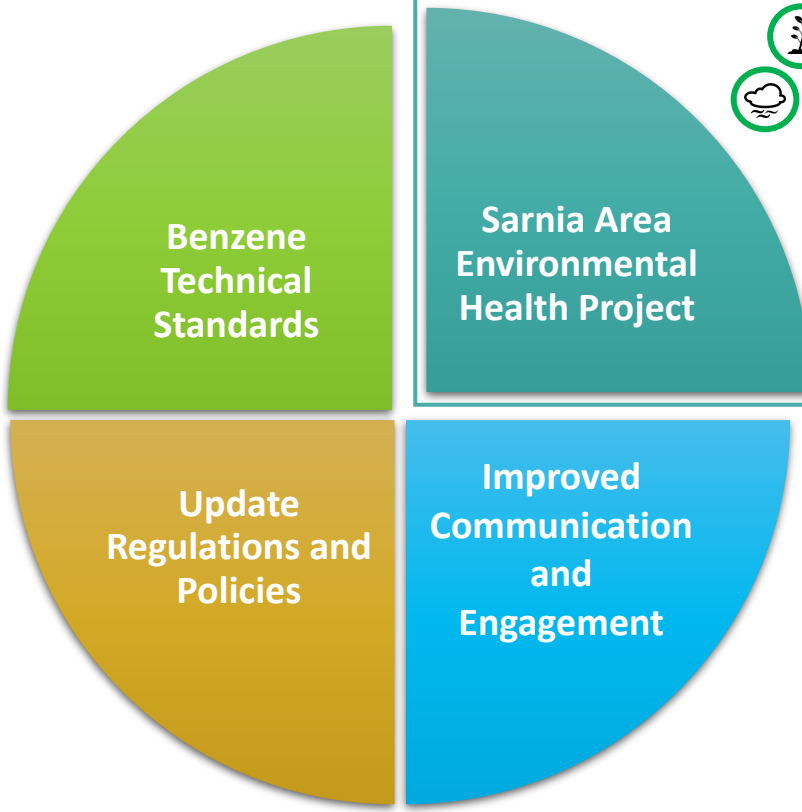
This project is part of the Sarnia Air Action Plan

The Sarnia Air Action Plan is a multifaceted initiative within a broader Ministry framework that aims to improve air quality, communication and community outreach.

- Implementation of the benzene technical standards
- Inspections on sources of benzene emissions
- Oversight of Property Line Monitoring results and actions to address higher levels
- Leak Detection and Repair Performance Assessments



Developed to help address concerns from local residents about chemicals in air and quality of life impacts associated with living close to industrial facilities in the Sarnia area

- NEW - SO_2 regulation proposed for petroleum refineries in 2021.
- SO_2 regulation for petroleum refineries to monitor emissions, and a tool to issue environmental penalties for SO_2 threshold exceedances.
- Upcoming review of the effectiveness of benzene technical standard.

- Improving communications with Aamjiwnaang First Nation based on feedback from communication needs assessment and enhanced incident notifications
- Implementation and enhancement of the Clean Air Sarnia and Area air monitoring network and website

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Questions and Comments?

Sarnia Area Environmental Health Project

Project overview, updates (e.g., meetings and materials), contact info and mailing list signup is available at the SAEHP webpage (hosted on the Clean Air Sarnia and Area website)

https://www.cleanairsarniaandarea.com/sarnia-area-environmental-health-project.aspx

To provide feedback, or ask further questions, you can also email our team at: SAEHP@Ontario.ca

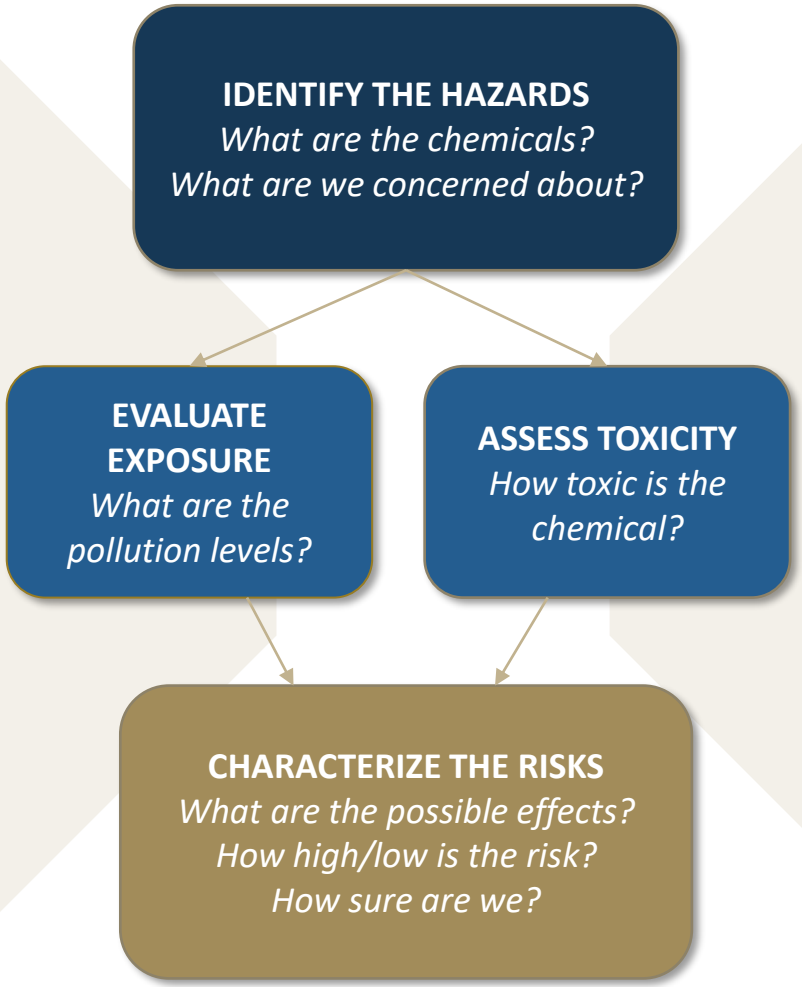
Appendix

Appendix A: How does this assessment consider multiple chemicals in the air?

- Where possible, the assessment will consider cumulative exposures by considering:

Multiple Sources:
Assessment relies on monitoring and modelling data, to evaluate exposures in the community

- Monitoring data is reflective of all emission sources at select locations
- Modelled data is reflective of multiple emission sources (e.g. industry, transportation) and represents the entire study area



Multiple Chemicals:
Assessment relies on permitting data to identify potential chemical in air

- Chemicals that can contribute to the same health outcome (e.g., lung cancer) may be considered together

Appendix A: What will this assessment tell us about health risks?

- The assessment will estimate if (and by how much) the exposure to a chemical through the ambient air will increase your overall *risk* of a health effect
- Health *risk,* not direct health *outcomes,* will be assessed in this project

- There are numerous risk factors that can lead to a health outcome (e.g. asthma development)

- Results of the assessment can be used to better characterize risks associated with ambient air and connect to information on health outcomes (in addition to actions on air quality)