

STAFF REPORT TO COUNCIL

1100 Patricia Blvd. | Prince George, BC, Canada V2L 3V9 | www.princegeorge.ca

DATE: January 14, 2021

TO: MAYOR AND COUNCIL

NAME AND TITLE: Ian Wells, Acting Deputy City Manager

SUBJECT: Release of Air Emissions Inventory and Modelling Report

ATTACHMENT(S): Powerpoint Presentation – UNBC Air Emissions Inventory Update.

RECOMMENDATION(S):

That Council RECEIVES FOR INFORMATION the staff report dated January 14, 2021, from the Acting Deputy City Manager, titled “Release of Air Emissions Inventory and Modelling Report”.

PURPOSE:

This report is to provide Mayor and Council with an update on the release of the updated Air Emissions Inventory and Modelling Report prepared by UNBC for PGAIR and its linkages to the City of Prince George’s operations and jurisdiction under the Clean Air Bylaw No. 8266, 2010. The attached Powerpoint Presentation will be presented by the authors of the Air Emissions Inventory and Modelling Report, Dr. Peter Jackson, UNBC, Brayden Nilson, UNBC, and Gail Roth, Ministry of Environment and Climate Change Strategy.

STRATEGIC PRIORITIES:

City Council is committed to protecting air quality and has identified Clean Air as a myPG goal within the Strategic Plan. The City of Prince George has policies that support Clean Air which include the Clean Air Bylaw No. 8266, 2010, the City Fleet Idling Policy, and the Energy Efficiency and GHG Reduction Policy.

BACKGROUND:

Prince George has had long-standing issues with air quality due to topography, dust from winter traction materials, emissions from transportation and industry, as well as smoke from wood burning appliances, recreational fires and forest fires. Over the years, Prince George has had some of the highest concentrations of particulate matter in the province. Given the serious health implications associated with fine particulate matter (PM_{2.5}), it is a priority pollutant in the Prince George airshed. Improving air quality is an important issue to Prince George residents due to its impacts on public health, quality of life and the local economy.

Over the past two decades, the City of Prince George (“City”) and the community have made significant efforts to improve local air quality. The City’s Clean Air Bylaw No. 8266 regulates the use of wood-burning appliances, open burning, recreational fires and fugitive dust control. The City has also made improvements to road traction maintenance and street sweeping operations to mitigate road dust generation.

The City has been a long-standing member of the Prince George Air Improvement Roundtable (PGAIR) which is a community based non-profit society made up of stakeholders from government, Northern Health, University of Northern British Columbia (UNBC), industry and the general public. PGAIR provides the opportunity for community partners to work together on air quality issues and has proven to make significant improvements to Prince George's air quality.

Since 1998, PGAIR, and its precursor the Prince George Air Implementation Committee, have been implementing the Prince George Air Quality Management Plans to improve local air quality by decreasing particulate matter emissions and has achieved great success with dedication from government and industry. This has occurred through four phases:

- **Phase I (1998-2006)** – Focused broadly on identifying and resolving local air quality issues, which involved the enactment of the first Clean Air Bylaw, banning open burning in the bowl, pollution control updates at the local pulp mills and phasing out beehive burners.
- **Phase II (2006 – 2009)** – Included 42 recommendations that focused on reducing particulate matter (PM) by working with transportation, industry, local government and local residents.
- **Phase III (2011-2016)** – Goal was to reach a 40% reduction in PM (from 1998 levels) by December 31, 2016.
- **Strategic Plan (2016 – 2021)** – Built on success from local improvements made in previous plans and aimed to continue to reduce annual concentrations of PM_{2.5}.

As the five-year period of the Strategic Plan ends in 2021, PGAIR is in the early planning phases for the next Strategic Plan. This has involved preparing an updated air emissions inventory to better understand current sources of pollutants in the airshed and guide recommendations for improvements.

The last air emissions inventory was developed in 2010 using airshed data from 2005, therefore an evaluation of more recent airshed data is critical for guiding air management strategies in this upcoming Strategic Plan.

DISCUSSION:

The City, Northern Health, the Ministry of Environment (MOE) and PGAIR worked with a research team at UNBC to produce an updated air emissions inventory to better understand priority pollutants in the airshed. The update uses data from 2016 (to avoid the above average wildfire smoke impacts from 2017 and 2018) and new weather and pollutant transport models to generate a new inventory for Prince George. The goal of this work is to build a foundation to guide future air management strategies for PGAIR.

The updated air emissions inventory also provides valuable information the City can utilize in its own operations, and jurisdiction under the Clean Air Bylaw. The following data from the air emissions inventory is pertinent to City operations and regulatory jurisdiction:

- The primary source of coarse particulate matter (PM₁₀) is dust generated from roads and commercial sites. Dust is most significant in the spring due to winter traction material on City roads and in large commercial parking lots. Other sources of dust include fugitive dust generated from active construction sites and unpaved industrial sites such as the railyards. PM₁₀ is highest in the Bowl area and the BCR Industrial Site.
 - Section 4 of the *City's Clean Air Bylaw No. 8266, 2010* regulates dust generation on private property such as commercial parking lots.

- Section 4.01 of the *City's Highways Bylaw No. 8065, 2008* regulates mud tracking to City roadways and subsequent fugitive dust generation.
- The primary sources of fine particulate matter (PM_{2.5}) are wood smoke from residential heating sources and dust generated from roads and commercial sites. Emissions from wood smoke are most significant in the winter months. PM_{2.5} is highest in the Hart, the Bowl and the BCR Industrial Site.
 - Section 2 of the *City's Clean Air Bylaw No. 8266, 2010* regulates the use of wood burning appliances.

The data provided by the updated air emissions inventory may also help inform future reviews of the City's existing bylaws that aim to improve local air quality for residents.

FINANCIAL CONSIDERATIONS:

The City has a long history of working towards improving air quality and has been a major financial contributor to PGAIR, the Monitoring Working Group and its predecessor groups for several decades. The City of Prince George has a dedicated air quality budget that is utilized to support air quality improvement actions. In 2019, a part of this budget was directed to support UNBC's Air Emissions Inventory Update.

SUMMARY AND CONCLUSION:

Improving air quality is an important issue to Prince George residents due to its impacts on public health, quality of life and the local economy. The City has been committed to working to improve local air quality for several decades, and is a long-standing member of PGAIR, the Monitoring Working Group and its predecessors.

The updated air emissions inventory provides valuable information the City can utilize in administering operations and the Clean Air Bylaw. The data may also be considered in future bylaw updates that address key air quality issues.

RESPECTFULLY SUBMITTED:

Ian Wells, Acting Deputy City Manager

PREPARED BY: Andrea Byrne, Environmental Coordinator

APPROVED:

Walter Babicz, Acting City Manager

Meeting Date: 2021/02/08