

Emissions Estimation Report



**M MAGNA
MINING INC.**

2021

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synergy 

About This Report

This report estimates emissions for Magna Mining Inc.'s ("Magna's") exploration and administrative activities in 2021. Magna is a Sudbury-focused base metal exploration and development company that is executing the first significant exploration program in 15 years at the past-producing Shakespeare Mine.

Magna intends to use this report to offset company emissions in the 2021 calendar year. As emissions in this report are based on forward-looking estimates, Synergy will also produce a full emissions inventory in early 2022, and complete a reconciliation to ensure total emissions offset represent total emissions produced.

Inventory Information

Company Name	Magna Mining Inc.		
Company Description	Magna Mining Inc. is a Sudbury-focused base metal exploration and development company. The company was formed in 2016 and in early 2017, acquired Ursa Major Minerals, a private company that owned the past producing Shakespeare Mine and Shining Tree project. Magna has since assembled a contiguous land package of over 180km ² which remains prospective for further nickel, copper and PGM discoveries.		
Contact Information	Jason Jessup	jason.jessup@magnamining.com	705-665-0262
Temporal Boundary	January 1st, 2021 to December 31st, 2021 Note: Magna will follow this report with a full GHG Inventory in early 2022.		
Geographic Boundary	The Shakespeare site, southwest of Sudbury, and Magna's office space at 1300 Kelly Lake Road in Sudbury, Ontario.		
Organizational Boundary	All emissions associated with exploration and administrative activities at Magna.		
Consolidation Approach	Operational Control: Accounting for 100% of emissions from operations over which the company has operational control.		
Emission Sources (Operational Boundary)	Scope 1 (Direct Emissions) - Gasoline, Diesel		
	Scope 2 (Indirect Emissions from Purchased Electricity) - Electricity		
	Scope 3 (Indirect Emissions from Other Sources) - Water, Home Working, Company Travel, Shipping, Contractor Travel		
	Biogenic Carbon - Biodiesel, Ethanol, Land Clearing		
Excluded Emission Sources	Waste & Employee Commuting Justification: Employees commute to site in company vehicles; other commuting & waste emissions were estimated and proved de minimis.		
GHGs Measured	Carbon Dioxide (CO ₂), Methane (CH ₄), Nitrous Oxide (N ₂ O)		
Primary Measurement	Carbon Dioxide Equivalent (CO ₂ e)		
Reporting Guidelines	Aligned with those defined in <i>The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, Revised Edition (The GHG Protocol, www.ghgprotocol.org)</i> .		

Inventory Results

Magna Mining Corp.

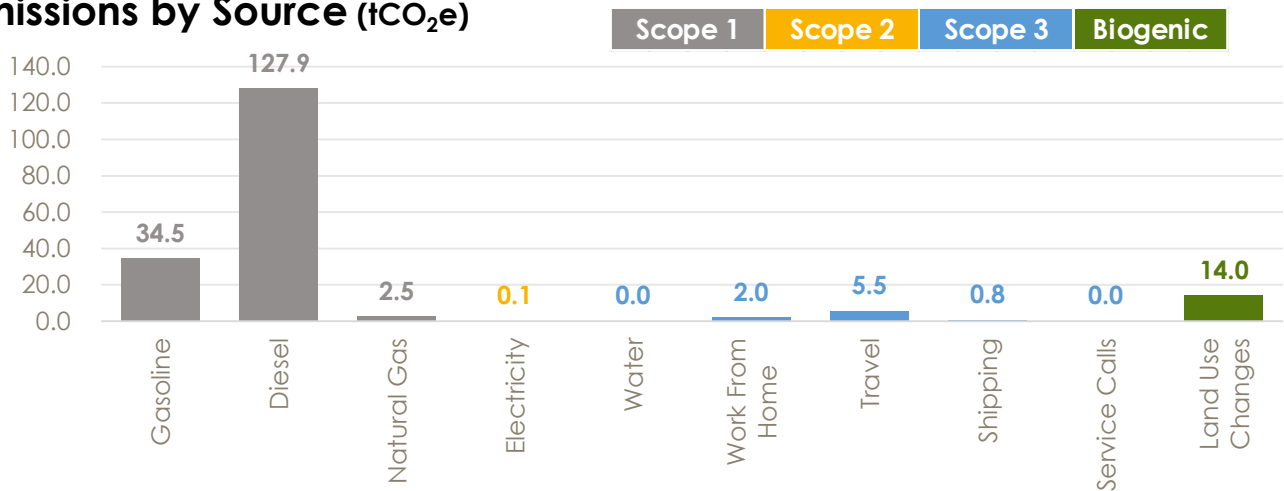
2021 Estimation Report



Magna's 2021 emissions are estimated to be 187.3 tonnes of carbon dioxide equivalent (tCO₂e). The majority of emissions result from the combustion of gasoline and diesel in exploration equipment. Other major sources include emissions from land clearing and company travel.

Carbon Footprint By Activity

Emissions by Source (tCO₂e)

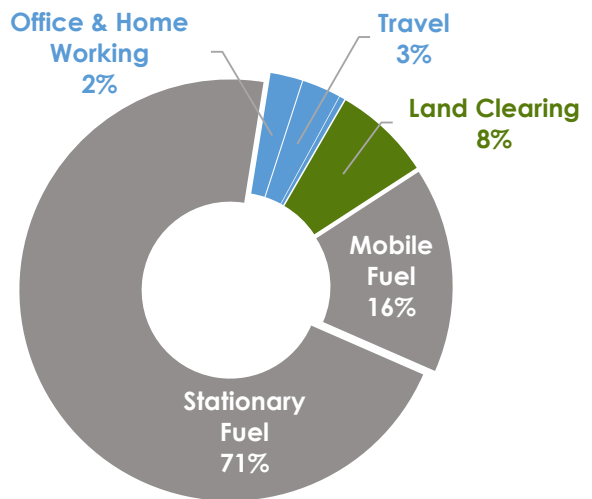


	tCO ₂ e	%
Scope 1 (Direct)	166.1	89%
Scope 2 (Indirect)	0.1	0%
Scope 3 (Indirect)	8.3	4%
Biogenic Carbon*	15.2	8%

TOTAL EMISSIONS 187.3 100%

*Note: Biogenic Carbon includes emissions from land clearing, and the ethanol and biodiesel components of typical fuel blends.

Emissions by Activity (%)



64,371

Litres of Fuel



0.50

Hectares Cleared



9,000

Drilling Meters

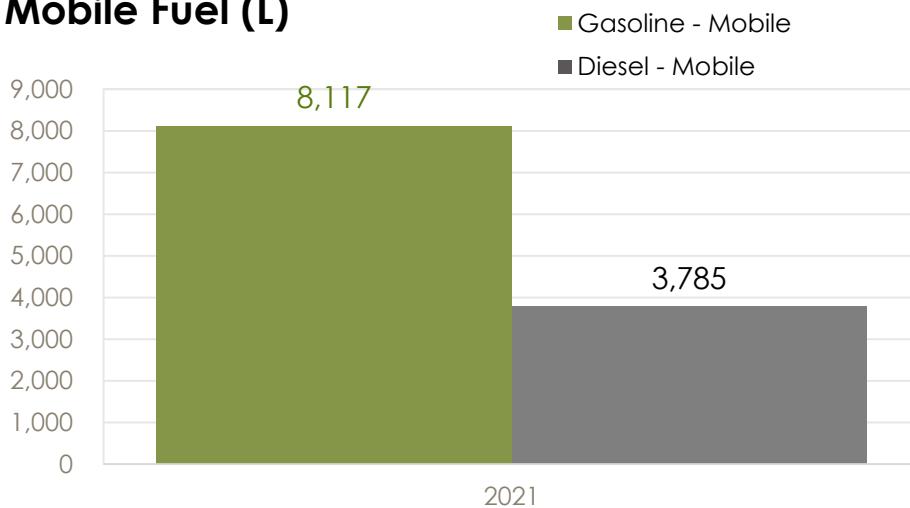
tCO₂e

Total

187.3

Fuel for Mobile Equipment

Mobile Fuel (L)



Analysis

Magna owns two company pick up trucks that are used to drive between the Shakespeare site and the company office in Sudbury. Other mobile equipment for 2021 includes a rented bulldozer and backhoe.

Total emissions from mobile equipment are estimated to be 29.4 tCO₂e, about 16% of the footprint.

L / Day **32.6**

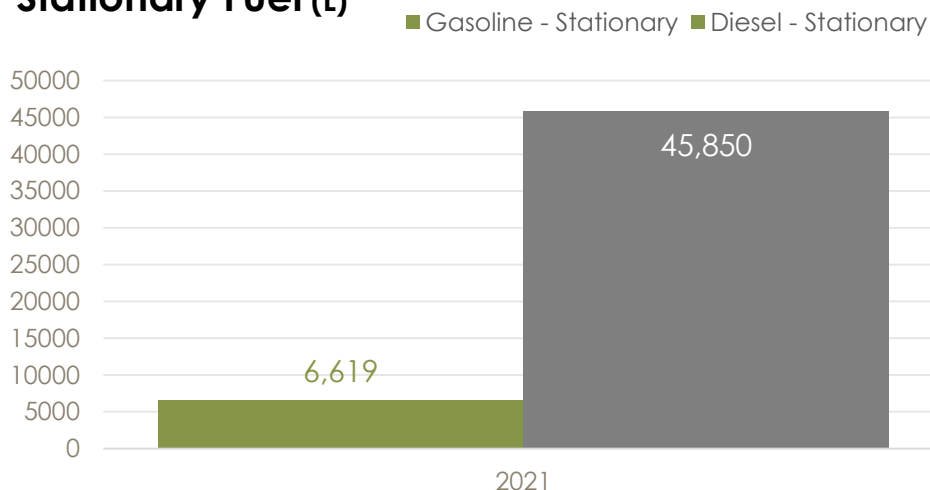
L / Year **11,902**

tCO₂e **29.4**

% of Total **15.7%**

Fuel for Stationary Equipment

Stationary Fuel (L)



Analysis

Stationary fuel is used primarily by the diamond drill, which consumes an estimated 45,000 L of diesel throughout the year. In addition to diamond drilling, diesel and gasoline are used to power generators and small tools like chain saws and core saws.

Stationary fuel is the largest emission source, estimated at 71% of the total.

Litres / Day **143.7**

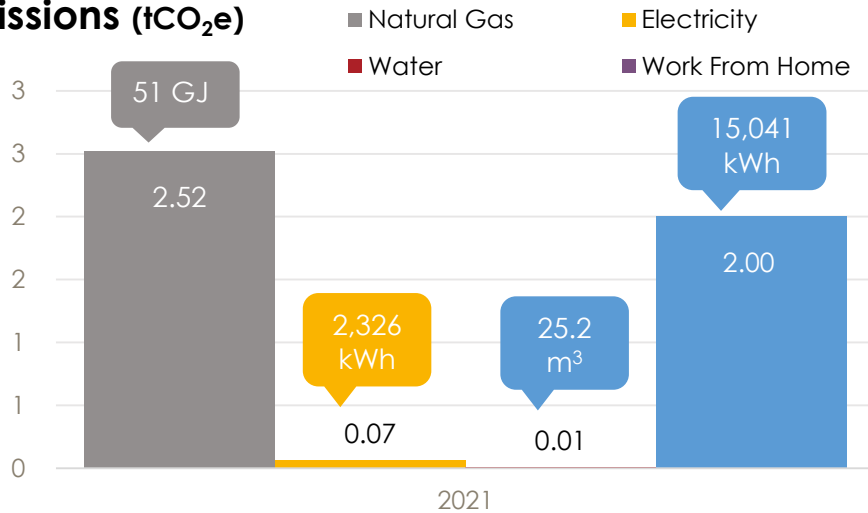
Litres / Year **52,469**

tCO₂e **132.9**

% of Total **71.0%**

Office Utilities & Home Working

Emissions (tCO₂e)



Analysis

About half of Magna's nine employees work from home, while the other half work on site or split their time between the site and Magna's office in Sudbury. Office emissions include emissions from utilities (natural gas, electricity, and water), while home working emissions include heating and electricity. Total administrative emissions are estimated to be small (2.5% of the total).

Total kWh
31,534

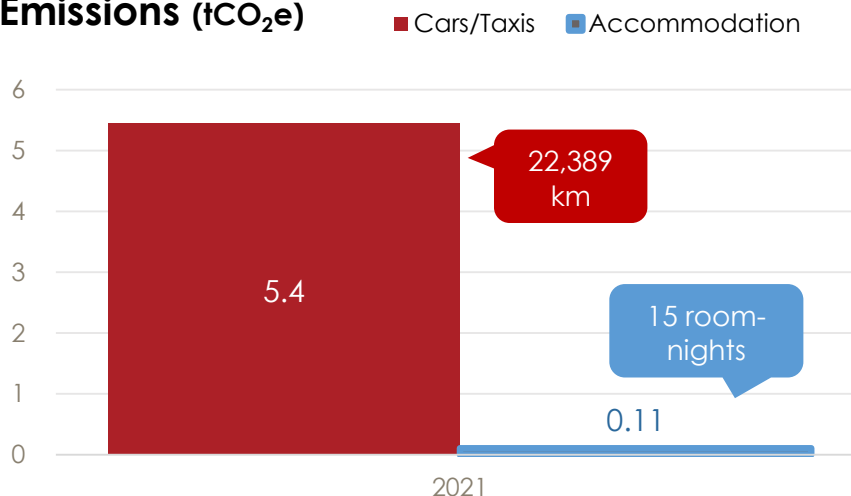
kWh/sqft
50

tCO₂e
4.6

% of Total
2.5%

Company Travel

Emissions (tCO₂e)



Analysis

Throughout the year, it is expected that Magna directors will travel to and from Toronto and Sudbury, mainly in their own vehicles. Magna is not anticipating any international travel as conferences will be virtual for the remainder of 2021.

Travel is a small portion of the total footprint, at just 3%, but is likely to increase in subsequent years.

tCO₂e / FTE
0.62

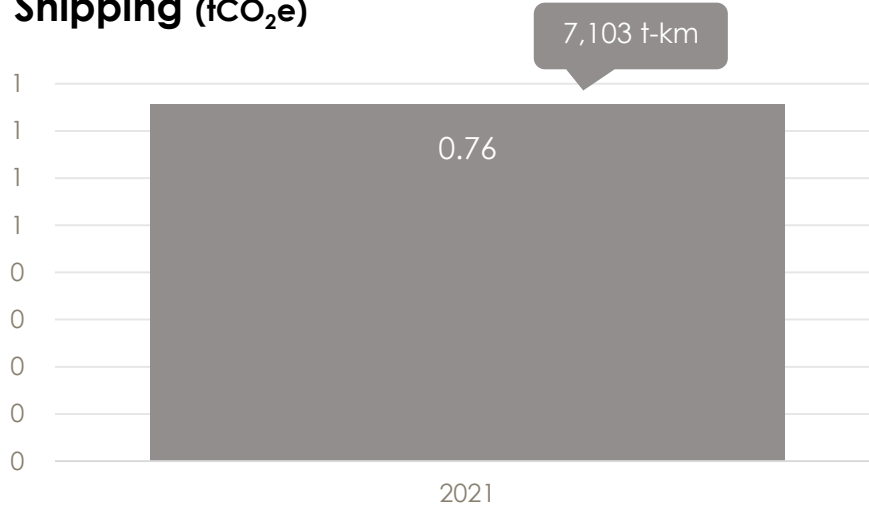
tCO₂e / Trip
0.36

tCO₂e
5.5

% of Total
3.0%

Shipping & Contractor Travel

Shipping (tCO₂e)



Analysis

In addition to employee activity at the Shakespeare site, Magna employs contractors including geophysics technicians, environmental consultants, and drillers. Emissions from their vehicles have been estimated here, along with the shipment of the diamond drill rig from Val D'Or Quebec.

t-km shipped **7,103**

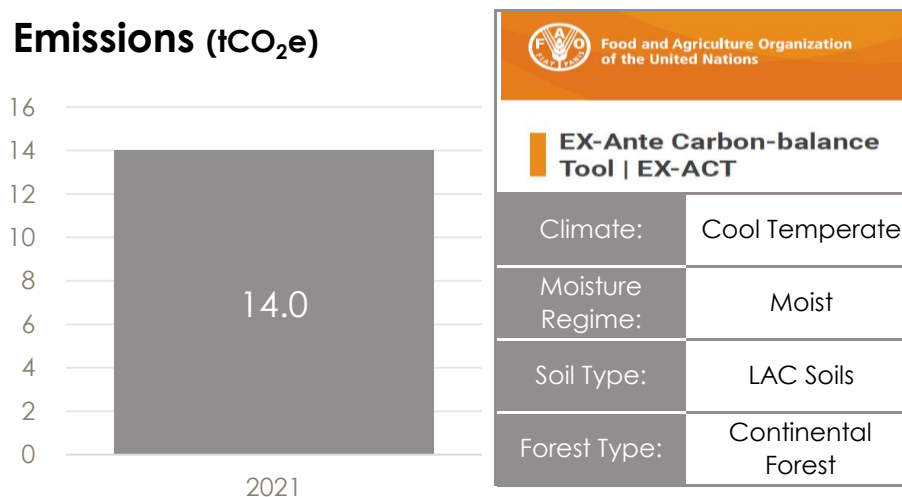
L Fuel (Contractors) **0**

tCO₂e **0.8**

% of Total **0.4%**

Land Use Changes

Emissions (tCO₂e)



Analysis

In order to conduct its exploration activities, Magna is estimated to clear 0.5 hectares of land at the Shakespeare site, resulting in the release of 14 tCO₂e. Most drilling will take place around the previously cleared mine site or on already established drill pads.

* Note: Emissions from land use changes were calculated using the Food and Agriculture Organization of the United Nation's EX-Ante Carbon-balance tool using the inputs listed above.

0.5
Hectares

tCO₂e / ha **28.0**

tCO₂e **14.0**

% of Total **7.5%**

Emissions References

1. 2018 B.C. Best Practices Methodology for Quantifying Greenhouse Gas Emissions
<http://www2.gov.bc.ca/gov/content/environment/climate-change/policy-legislation-programs/carbon-neutral-government/measure>
2. Environment Canada's National Inventory Report (1990-2020); Part 2 & 3.
http://unfccc.int/files/national_reports/annex_i_ghg_inventories/national_inventories_submissions/application/zip/can-2017-nir-13apr17.zip
3. Department for Environment, Food & Rural Affairs (UK) Carbon Factors
<https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2017>
4. Intergovernmental Panel on Climate Change (Global Warming Potentials)
http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html
 All emissions factors are reviewed and approved by Offsetters (www.offsetters.ca) on an annual basis.

Policy for Base Year Recalculation:

Base year emissions, and other previous emissions, shall be retroactively recalculated if a change in organizational structure or data quality is expected to exceed a significance threshold of 10% of base year emissions. These changes may arise from structural changes such as mergers, acquisitions, divestments, outsourcing or insourcing, changes in calculation methodology and improvements in accuracy, or discovery of significant errors.

Glossary of Terms

Term	Description
GHG	Greenhouse Gas (emissions): Atmospheric gasses contributing to the greenhouse effect, including Carbon Dioxide (CO ₂), Methane (CH ₄), Nitrous Oxide (N ₂ O), etc.
L	Litre: Unit of fuel
GJ	Gigajoule: Unit of natural gas equal to 26.137 m ³ or 0.947 MMBtu
kWh	Kilowatt-Hour: Common unit for measuring electrical consumption
m ³	Cubic Meter: Unit of measurement equal to 1,000 Litres
psg-km	Passenger-Kilometer: Unit separating total emissions between passengers per km
tCO ₂ e	Tonnes of Carbon Dioxide Equivalent: GHGs have different warming potentials, measured collectively as CO ₂ equivalent (hence "e")
t-km	Tonne-kilometer: A unit of measurement used in shipping

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