

Mining Industry & Efforts to Reduce GHGs

July 23, 2019

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Mining in Saskatchewan



- **Saskatchewan Mining Association (SMA):** Voice of the Saskatchewan mining industry.
- **Mission:** Advance a safe, sustainable and globally competitive mining industry in Saskatchewan that benefits all residents of the province.
- Over 45 member companies including producers and exploration companies:
 - Nutrien, Mosaic, Cameco, Orano, Westmoreland Coal, SSR Mining, HudBay Minerals, BHP Billiton, K+S Potash Canada Inc, Denison, Rio Tinto, Star Diamonds, NSC Minerals, NexGen Energy, Fission and dozens of exploration and mining contractor companies.

Importance of Saskatchewan Mining – Global Perspective

Rank	Category	Value/Percentage	Geographic Scope
#1	Canadian Mineral Investment Attraction		
#3	Global		
#1	Potash Producer	33%	Global
#2	Uranium Producer	13%	Global
#4	Value of Mineral Product	\$6.7B	(ON, QB, BC)
#1	Industrial Employer of Indigenous People		
#4	Canadian Explanatory Expenditure	\$247	(ON, QB, BC)
Leading Client of Rail & Vessel Transport		(Value & Volume)	



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Canadian Mineral Production

Canada's Top Minerals	2018 Value (\$B) (\$47B)	2017 Value (\$B) (\$45B)
Gold	9.6	8.8
Coal	6.4	6.2
Potash	5.7	4.8
Iron Ore	4.8	3.8
Copper	4.5	4.7
Nickel	3.0	2.8
Diamonds	2.7	2.7
Uranium	0.66	1.4

- Total value of mineral production in Canada in 2018 increased to \$47B
- Gold #1 MVP commodity by value of production (\$9.6B); Potash #3 @ \$5.7B
- **Saskatchewan continues to be the Canadian jurisdiction as a world leader in two commodities – potash and uranium**

Saskatchewan Mining Industry – Quick Facts

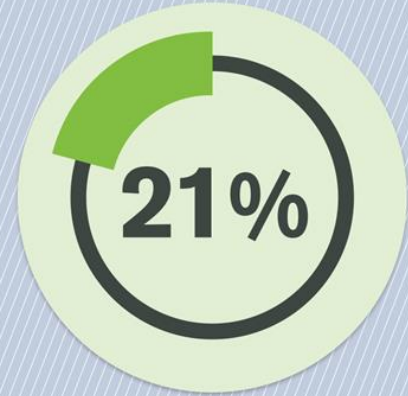


12,400

SK mining operations directly employ more than **12,400** individuals.



For every **direct job** in the SK industry, there are at least **two jobs** in the mining supply and service sector.



21% of SK mine employees are Indigenous.



SK mining operations paid a total of **\$1.4 billion** to employees in 2017.

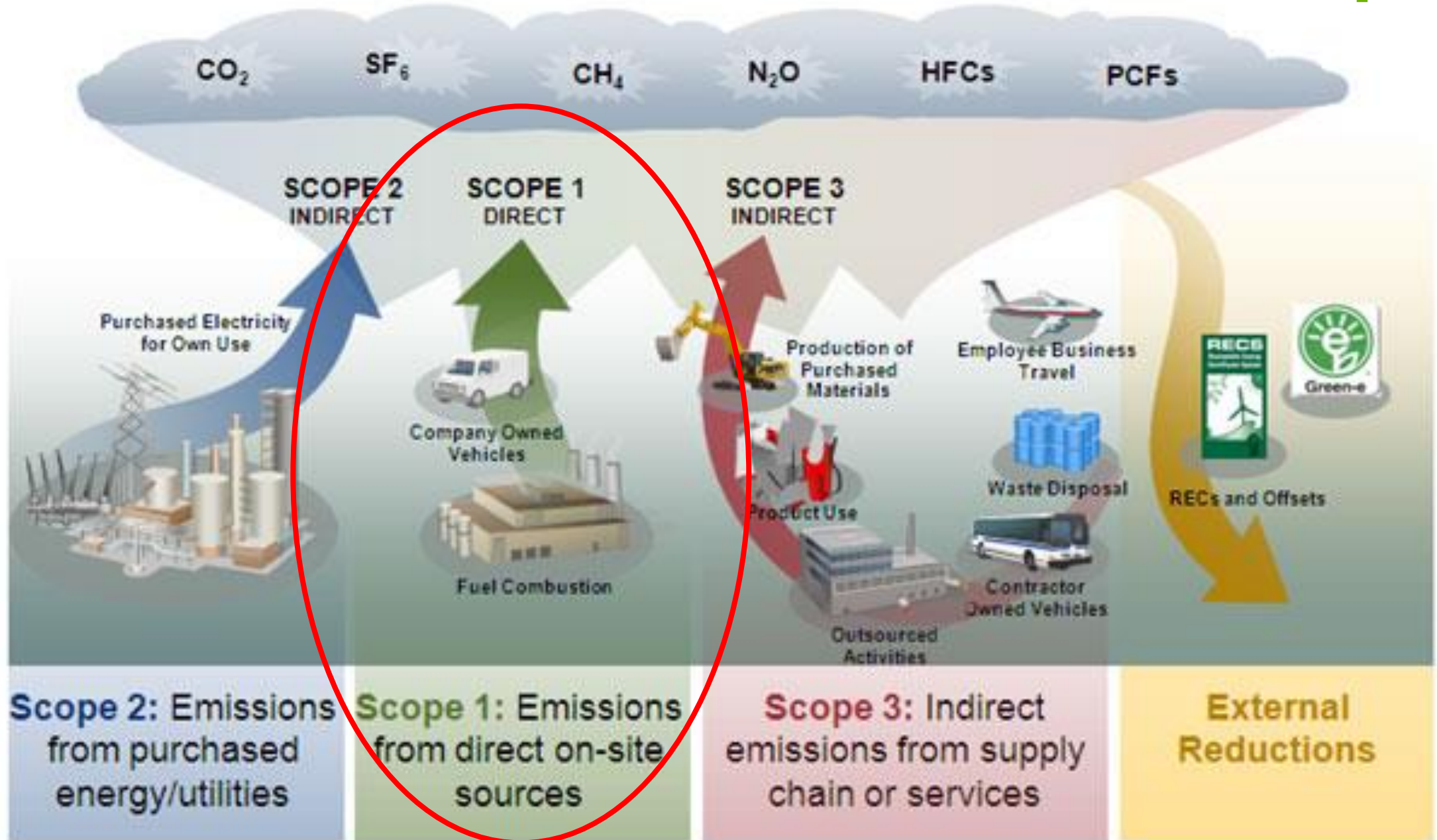


In 2017 SK mining companies purchased **2.9 billion (58%)** of their total goods and services from Saskatchewan suppliers.

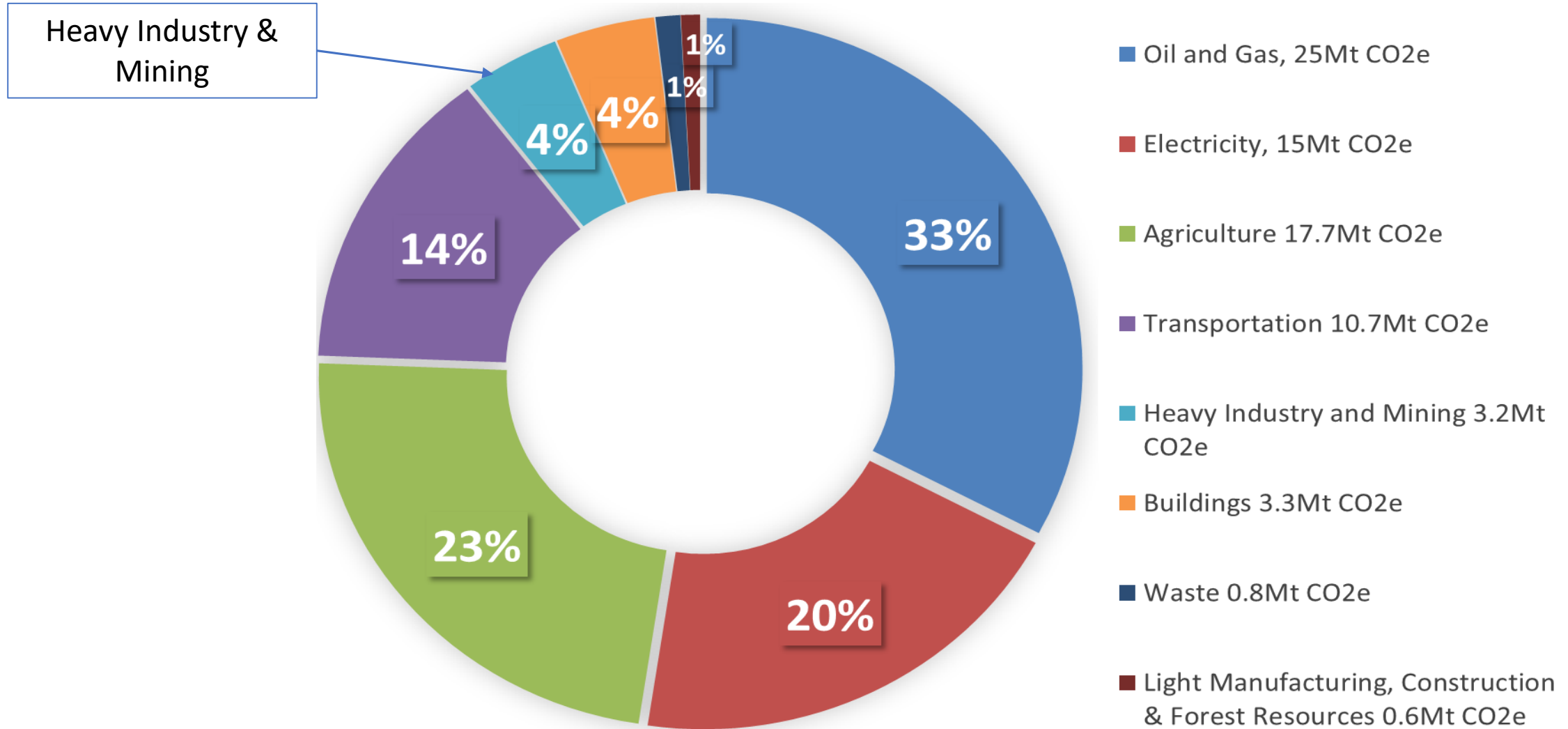


In 2018 SK mining operations made over **\$22 million** in social and community contributions.

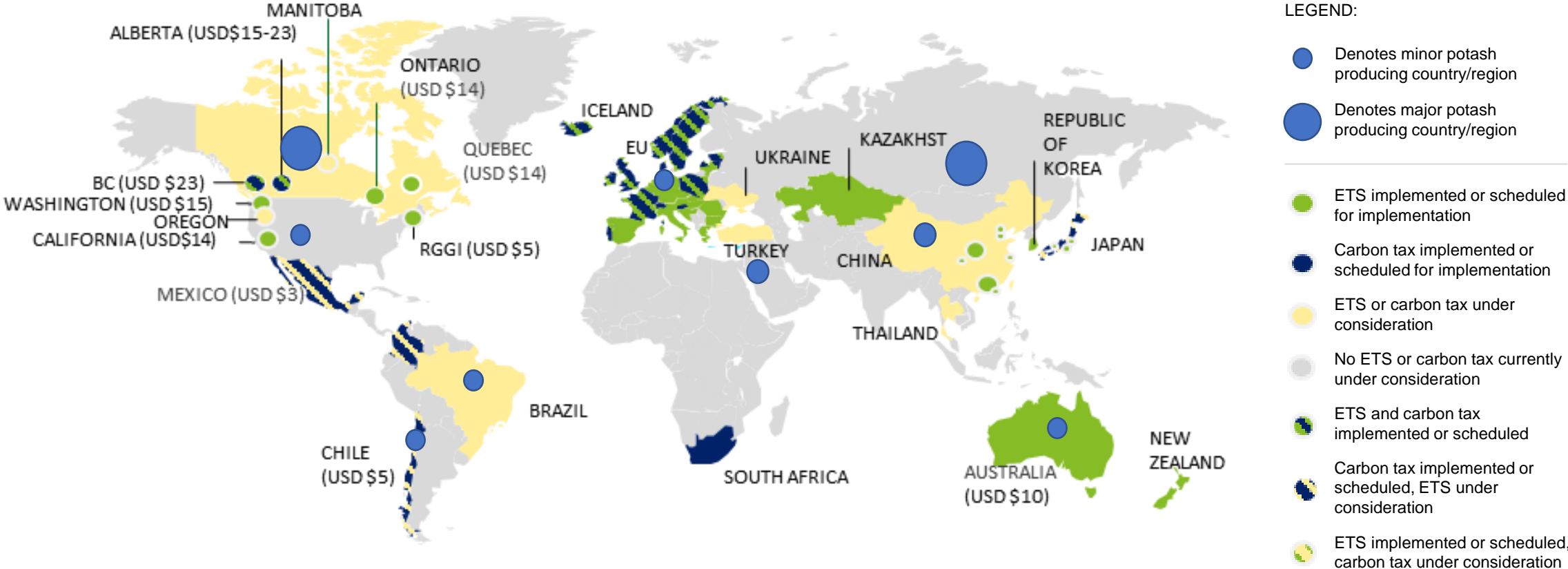
Greenhouse Gas Emissions – Direct/Scope 1



Saskatchewan's GHG Emissions Profile



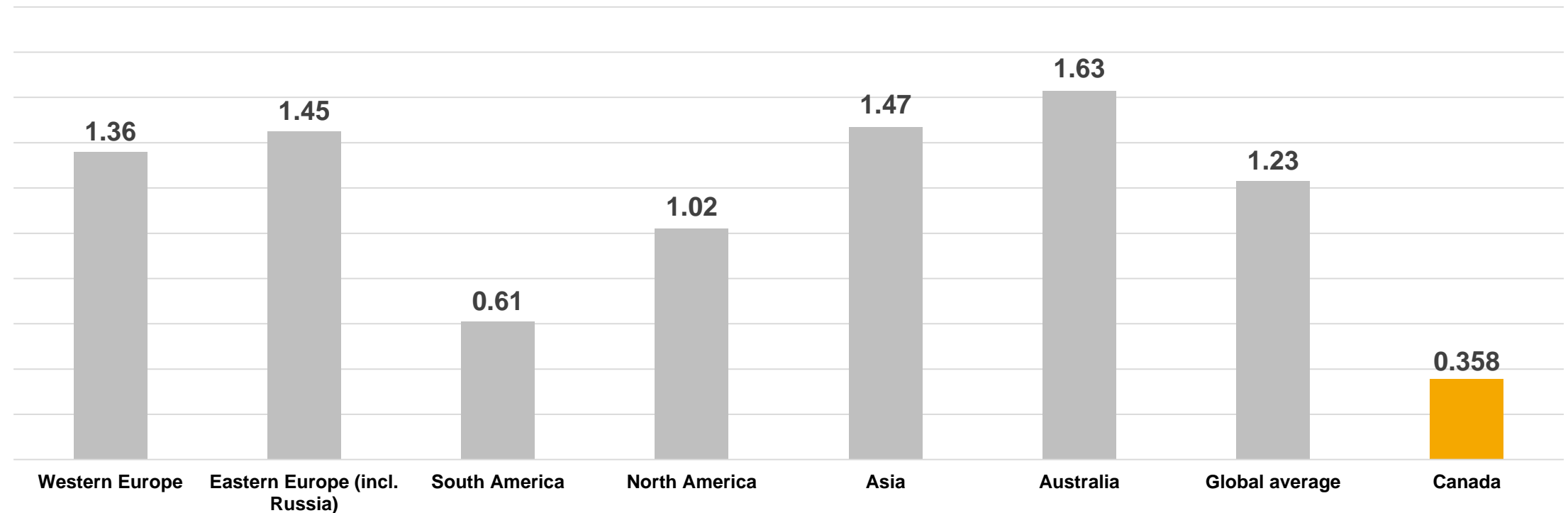
Risk for Carbon Leakage: Global View




Source: World Bank. Carbon Pricing Watch 2017

2014 Potassium Lifecycle GHG Emission Intensity Averages

2014 Average (tCO₂e/tK₂₀)



Source: Cheminfo Services Inc. Carbon Footprint for Canadian Potash Production, 2017



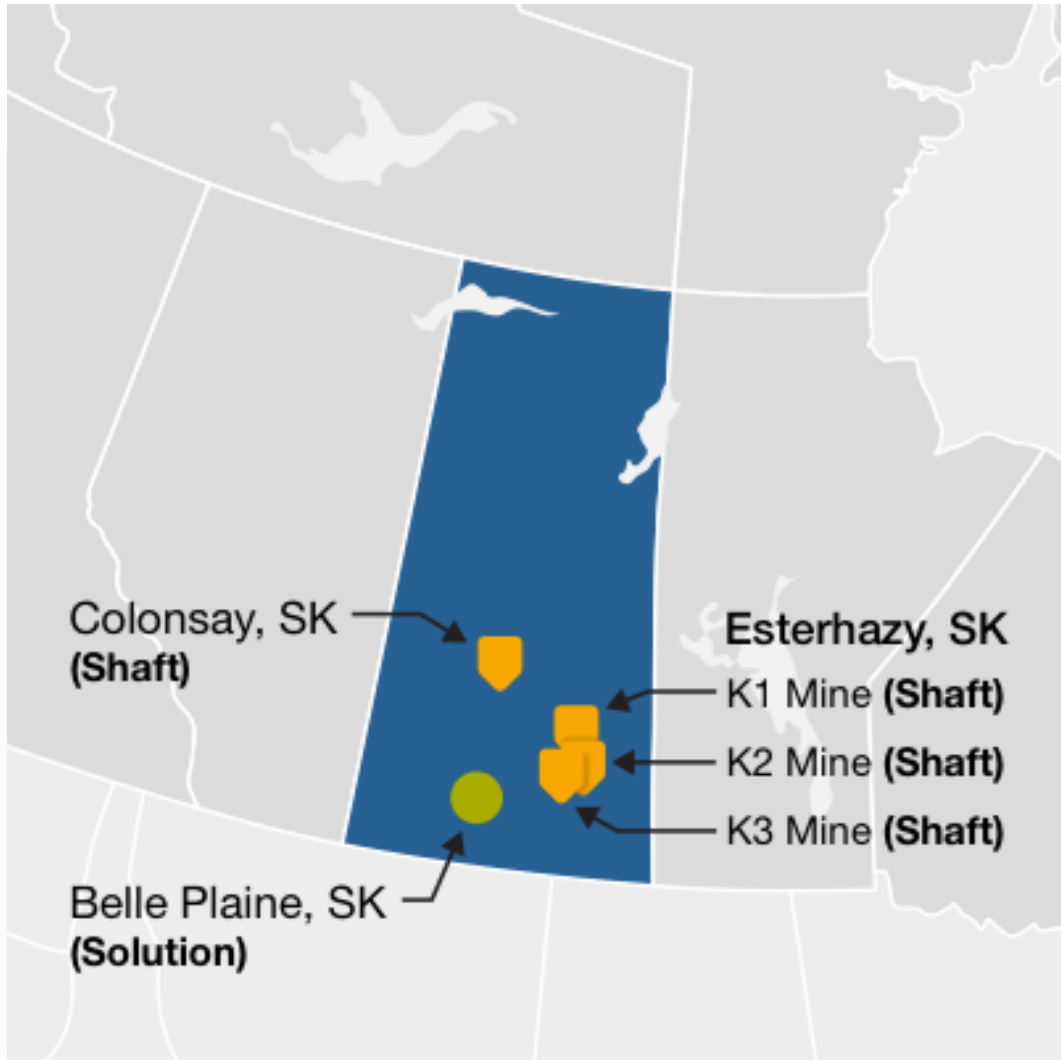
Canadian potash
GHG emissions
are only 29% of the
global average –
leading the world
in terms of low
GHG output.

CO₂e



Canadian potash is already the most sustainable in the world, creating the fewest GHG emissions among global producers.

Sustainability at Mosaic



Mosaic Potash Operations in Saskatchewan



Mosaic – Driving Sustainability Without Regulation

2015

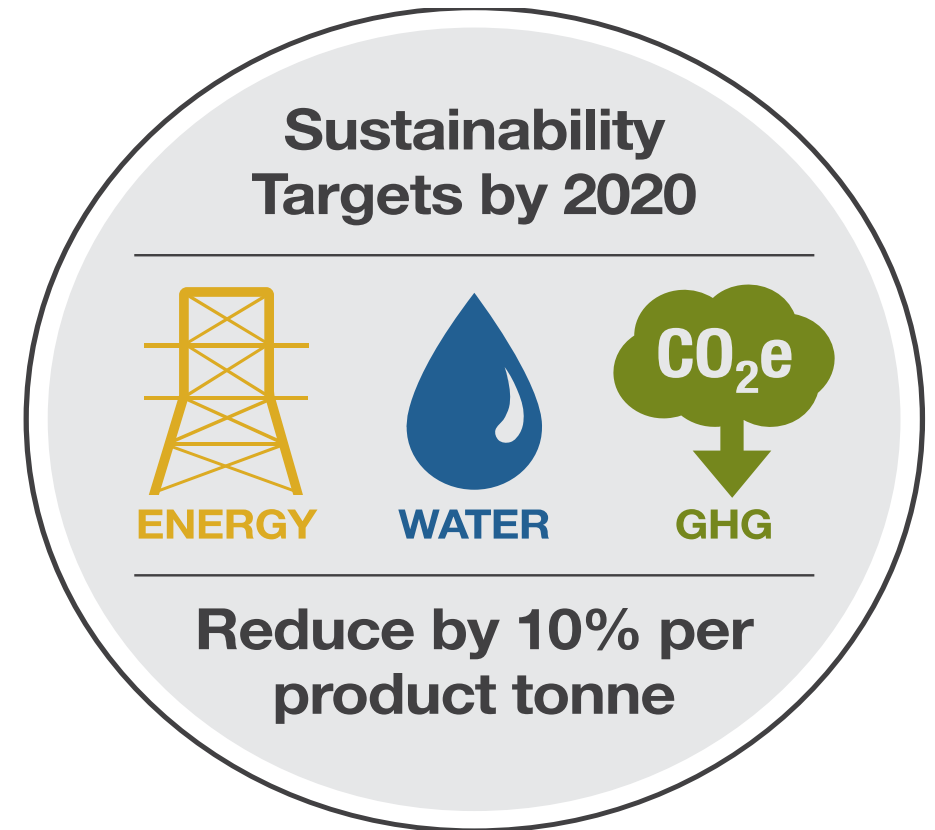
Mosaic set countrywide (potash) internal targets independent of government regulations

2018

GHGs: reduced by 10%
Energy: > 10% reductions (*target exceeded*)
Freshwater: > 20% reductions (*target exceeded*)

2020

Current target deadline
(new targets for post-2020 in development)

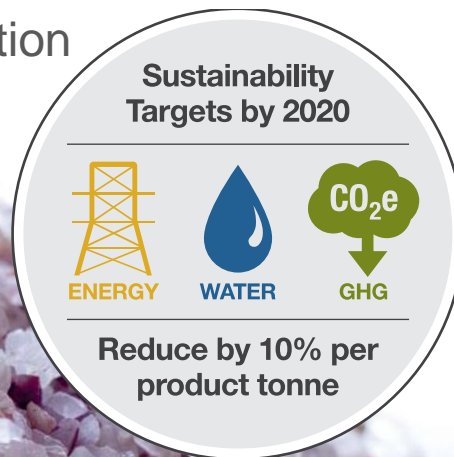


Climate Change: Pillars of Mosaic's Commitment

A

Mosaic & Canadian potash are best path to global GHG reductions

- Best in class among global competitors
- Investment decisions will be based on most cost-competitive jurisdiction



B

Mosaic & Canadian potash are good for Canada

- Food security for Canada and the world
- Serious focus on corporate social responsibility and Indigenous engagement
- Strong goals in sustainability are in place (irrespective of carbon pricing)
- Canada is first in global potash production
- Thousands of Canadian jobs at stake

Climate Change: Pillars of Mosaic's Commitment

C

Global competitiveness & economic impact

- Energy intensive, trade exposed industry (EITEI)
- Layering of environmental policy creates cost burden but not necessarily more effective emission reductions
- No ability to pass through costs to customers

D

Driving innovation & encouraging growth

- Seeking ways to reduce emissions further in longer term
- New potash entrants in Canada have similar emissions output to longtime producers



What's Next

- Continued engagement with provincial and federal governments to ensure Saskatchewan mining companies remain cost competitive in the global market
- Continue to drive sustainability, regardless of regulation



Thank you!