

BACKGROUND:

Preliminary Costs of the Federal Carbon Backstop on Saskatchewan Agriculture



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The Agricultural Producers Association of Saskatchewan (APAS) is Saskatchewan's general farm organization – formed to provide farmers and ranchers with a democratically elected, grassroots, non-partisan, producer-run organization based on rural municipal boundaries. As the united voice of thousands of agricultural producers in Saskatchewan, we strive to represent the views of a wide variety of agricultural stakeholders in order to form comprehensive policies that can benefit all sectors of society.

What does the Federal carbon backstop mean for Saskatchewan agricultural producers?

- Starting April 1, 2019, the Federal backstop carbon tax was applied in Saskatchewan
- The tax will start at \$20/tonne of emissions in 2019 and increase by \$10/tonne and reaches \$50/tonne in 2022.
- An exemption for farm fuel is provided upfront through the use of exemption certificates, when certain conditions are met. The certificate allows a registered distributor to deliver gasoline or light fuel oil (e.g., diesel) to a farmer at a farm or cardlock provided the fuel must be “used exclusively in the operation of eligible farming machinery and for eligible farming activities”.
- Although farm fuel is exempt from the carbon tax, farmers will still face significant cost increases on other fuel sources, like natural gas and electricity, and indirect costs like inputs and transportation.
- Based on APAS estimates, a \$20/tonne federal carbon tax will cost an average Saskatchewan grain farm \$2 per acre of direct and indirect costs in 2019, rising to \$4 per acre by 2022.
- Research on cost estimates for livestock production are underway.

Table 1. Fuel Charge Rates Applied to Saskatchewan – Effective April 1, 2019

	2019	2020	2021	2022
Natural gas \$/cubic metre	\$0.0391	\$0.0587	\$0.0783	\$0.0979
Gasoline- \$/litre	\$0.0442	\$0.0663	\$0.0884	\$0.1105
Propane- \$/litre	\$0.0310	\$0.0464	\$0.0619	\$0.0774
Diesel- \$/litre	\$0.0548	\$0.0821	\$0.1095	\$0.1369

What potential costs could an agricultural producer in Saskatchewan face?

Fertilizer – Direct Cost

- Fertilizer may be the largest cost to agricultural producers, but there is not enough information to estimate increased costs..
- Major Canadian fertilizer plants are subject to the output-based pricing system (OBPS) and are assessed to be in a “high competitive risk category” that allows them to emit 90% of their sector’s average emissions intensity with no additional cost. More information is forthcoming.

Grain Drying – Direct Cost

- With natural gas being taxed at \$0.0391/cubic metre in 2019, grain drying would cost \$0.36/acre and go up to \$0.89/acre in 2022.

Heating and Electricity

- Electricity costs will increase by \$0.06/acre in 2019 up to \$0.14/acre in 2022.
- Heating will increase to \$0.15/acre in 2019 up to \$0.39/acre in 2022.

Rail Freight

- Hauling spring wheat from Melfort, SK to Vancouver, BC via CN Rail with 62.5 bushels/acre will go up to \$1.34/acre in 2019 up to \$2.03/acre in 2022.

Trucking – Indirect Cost

- Hauling spring wheat from farm to elevator, travelling on average 63km one way (one way loaded, one way empty) will cost \$0.16/acre in 2019 up to \$0.40/acre in 2022.

What costs are unknown or still to be determined?

- Indirect costs of transporting inputs
- Transportation costs for livestock and livestock feed
- Increased costs for processors (canola crushers, mills) lowering prices
- Cost increases for manufactured products like machinery
- Increased costs for custom services

What assumptions were made when calculating these costing numbers?

Table 2. Calculation of APAS Cost Estimates			
	2019 \$20/tonne	2022 \$50/tonne	Assumptions
Electricity	\$0.06/acre	\$0.14/acre	- Estimated current total cost of \$2.74/acre ^{1,2} - At \$20/tonne, carbon tax charge of 0.2994 cents /Kwh, resulting in avg. cost increase of 2.1% -(\$2.74 /acre) * (2.1% increase) = \$0.06 /acre - At \$50/tonne, estimated cost increase of 5.25%: - (\$2.74 /acre) * (5.25% increase) = \$0.14 /acre
Heating	\$0.15/acre	\$0.39/acre	- Estimated current total cost of \$0.39/acre ^{1,2} - Current Natural Gas Rate April 1, 2019: \$0.0998 Cost/m3 - Carbon Levy (\$20/tonne): \$0.0391 Cost/m3 Natural Gas (40% increase) - (\$0.39 /acre) * (40% increase) = \$0.15 /acre At \$50/tonne, estimated cost increase of 100% - (\$0.39/acre) * (100% increase) = \$0.39/acre
Grain Drying	\$0.36/acre	\$0.89/acre	- 170m ³ /hr of natural gas at 10psi to run a 6 million BTU dryer with a 400bu-5point per hour capacity \$0.0391/m ³ of natural gas Carbon Cost * 56m ³ /hr = \$2.19/hr (\$1.74/hr) / (400 bushel/hr) =\$0.00547/bushel (\$0.00547/bushel) * 65.2 bushels/acre³ = \$0.36/acre
Rail Freight	\$1.34/acre	\$2.03/acre	- Transporting Spring Wheat from Melfort to Vancouver via CN: 1224 miles - Current Railway Carbon Tax Surcharge Rates: \$0.033/mile in SK (290 miles); \$0.058 mile in Alb (493 miles); \$0.067 mile in BC (444 miles) ⁴ - (\$67.83 per rail car) ÷ (3300 bushels/rail car) = \$0.0206/bushel - (65.2 bu/acre) * (\$0.0206/bushel) = \$1.34/acre - At \$50/tonne, estimated cost is \$102.82 per rail car (\$0.0312/bushel) - (65.2 bu/acre) * (\$0.0312/bushel) = \$2.03/acre
Trucking Freight	\$0.16/acre	\$0.40/acre	- Hauling fully loaded super b of loaded wheat 63 km (39.4 miles) to elevator ⁵ (39.4 miles) / 0.99 miles/litre ⁶ = 39.8 litres farm to elevator (39.8 litres farm to elevator) * (\$0.1369 carbon cost/litre of diesel) = \$5.45 Farm to Elevator

¹ 2019 Saskatchewan Crop Planning Guide estimate \$4.90 per acre "Utilities"

² "Utilities" breakdown (56% electricity, 28% telephone, 16% heating) as per discussion with Saskatchewan Ministry of Agriculture

³ 2019 Saskatchewan Crop Planning Guide estimated bushels/acre for spring wheat in black soil zone

⁴ CN and CP Carbon Tax and Environmental Surcharge Tariffs Available Online

⁵ Average distance from farm to elevator in Saskatchewan as per 2002 Quorum report Commercial Trucking Rates in the Movement of Western Canadian Grain

⁶ 4.5 mpg or 0.99 mpl consumption by fully loaded Super B as per discussion with industry