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Trailer Side Skirts

Inputs

(Enter data in grey cells only)

Steps

1	Cost per unit: purchase and installation cost per semi-trailer	P	\$2,000
2	Annual maintenance cost	M	\$200
3	Fuel savings	F	6%
4	Annual mileage of tractor	K	200000
Select the unit <input checked="" type="radio"/> km <input type="radio"/> miles			
5	Semi-trailers per tractor	n	2
6	Annual mileage of semi-trailer	$S = K / n$	100000 km
7	Fuel price (¢/L)	X	110
Select the unit <input checked="" type="radio"/> L/100 km <input type="radio"/> mpg			
8	Current fuel consumption	Y	34
9	Proportion of annual mileage of semi-trailer that was driven at speed of 80 km/h or more (%)	p	80

Results

Annual fuel savings per semi-trailer	$A = f \times p \times S \times F \times Y$ where f is a conversion factor*	1632	litres
Annual GHG emission reduction per semi-trailer	$G = A \times 2.7$	4406	kg
Annual savings per semi-trailer	$B = A \times X - M$	\$1,595	
Payback period per semi-trailer	$C = P / B$	15	months or 1.25 years

Disclaimer

The purpose of these simplified models is to demonstrate the cost saving opportunities available for the fleet owners through best practices and fuel saving devices.
 The model can be refined further based on the customer's requirements.
 The user is responsible for verifying the accuracy of the results.
 In no event shall Transport Canada be liable to any direct, consequential, incidental, special, punitive or other damages.
 High constant speed track tests at Energotest™ showed fuel savings of up to 7.5% for semi-trailer equipped with advanced trailer skirts
 Note: Not all trailer skirts offer similar performances.

Reference

Trailer Side Skirt Fact Sheet, Transport Canada 2011

* Conversion Factor: is calculated based on user's input for units of distance and fuel consumption. The below table is provided for information only.

Unit of S	Unit of Y	f	Conversion factor (f) formula
km	L/100km	1	km x L/100km
km	mpg	235.25	km x L/100km (= (3.786 x 100) / (1.61 x mpg))
miles	L/100km	1.61	km (= 1.61 x miles) x L/100km
miles	mpg	378.60	km (= 1.61 x miles) x L/100km (= (3.786 x 100) / (1.61 x mpg))