# **Processing Incentive Request- Lafarge Waste**

## ISSUE:

Liberty Tire Recycling British Columbia is seeking approval for a processing incentive to send tire shred to Lafarge for the purpose of energy recovery as an alternative fuel.

# **BACKGROUND:**

In Liberty's current tire shredding operation, they are creating roughly 800 tonnes per year of spillage. This spillage consists of fine rubber, steel, and fiber. Due to the material's consistency, they are not able to run it through their secondary processes, it drops back down onto the floor on its way to the shredders. As a result of not being able to rerun this material they have been forced to send it to landfill. Unfortunately, the nearest landfill that will take this material is in southern Washington, this adds considerable cost and GHG emissions. Liberty invested around \$80K last year in their shredder on trying to reduce this spillage, however there is still the 800 tonnes mentioned above.

Liberty has sent several samples of this material to Lafarge, and they have determined that they can convert it to energy to help power their kiln. If the request is approved there will be roughly 1-2 roll off bins per week that could be sent to Lafarge in Richmond, the cost for this would be \$45 per tonne. Liberty would also be paying Lafarge \$20-25 per tonne tipping fee for this material. As a result Liberty is asking to have this material classified as TDF 1, and receive a Processing Incentive of \$131.76 per tonne for this "Conveyor Spill" material.

Liberty is continually looking for ways to reduce or eliminate any waste generated within their processes and feel that this is the most environmentally and cost-effective way to use this material. In 2022 Liberty sent 862 tonnes of this rubber material to landfill and is on pace this year to send 1,100 tonnes of material with the hope to move this up the waste hierarchy so that it can be used as energy recovery instead.

### ANALYSIS:

As with all its programs, TSBC constantly strives for continuous improvement. So, moving material up the waste management hierarchy and taking the initiative to do so is commendable and aligns with TSBC's core values.

The intent of the processing incentive is to reward companies that have transferred scrap tires into something of greater value. If Liberty is having to pay a tipping fee to Lafarge to take this material, then has Liberty really transferred those tires into something of greater value?

The below chart outlines an estimate of expenses to continue sending the material to Rabanco at various tonnage levels.

Baseline Yearly Estimated Expenses Sending to Rabanco								
Tonnes	Т	ipping Fee	Trar	nsportation	Cost			
800	\$	96,000	\$	175,286	\$	271,286		
1000	\$	120,000.00	\$	219,107	\$	339,107		
1200	\$	144,000.00	\$	262,929	\$	406,929		

The below chart outlines estimated expenses to send this material to Lafarge.

Baseline Yearly Estimated Expenses Sending to Lafarge								
Tonnes	Тір	ping Fee	Trar	nsportation	Cost			
800	\$	20,000	\$	36,000	\$	56,000		
1000	\$	25,000	\$	45,000	\$	70,000		
1200	\$	30,000	\$	54,000	\$	84,000		

This chart outlines Liberty's annual estimated savings by switching to Lafarge rather than Rabanco at various tonnage levels.

Liberty Savings						
Tonnes Savings						
800	\$	215,286				
1000	\$	269,107				
1200	\$	322,929				

The above charts show that there is a clear financial benefit for Liberty whether a processing incentive is applied or not. The request from Liberty has requested that this conveyor spill be classified as TDF 1 with a processing incentive of \$131.76 as defined in the TSBC Program Policies.

(b) Tire Derived Fuel (TDF) incentive rates in effect are as follows:

Category	Rate	Description						
TDF 1	\$131.76 per tonne	For shred processed for energy recovery.						
TDF 2	\$60 per tonne	For whole tires processed for energy recovery.						
TDF 3	\$158.54 per tonne	For fibre extracted from the scrap tire during the recycling process and sold for energy recovery.						

NOTE: Medium Truck tires are not eligible for TDF Processing Incentives unless pre-approved by TSBC.

#### Implementation:

Processing Incentive rates are reviewed periodically. See the TSBC policy <u>Incentive Rates – Review and</u> <u>Implementation</u>.

There can be some debate as to whether this conveyor spill actually qualifies as processed. By Liberty's own admission it is material that has yet to make it to the shredders and the secondary refining process. If this conveyor spill doesn't fully meet the requirements of TDF 1 could it be TDF 2 or 3? TDF 2 is defined as whole tires so there no processing at all happening but still gets a PI rate of \$60 per tonne. So perhaps a PI rate of \$95.88 halfway between TDF 1 and 2 should be considered. TDF 3 is just for fibre so this can be discounted. In reviewing the TSBC policy and Incentive Rates – Review and Implementation it clearly states that "there will be no increases to Processing incentive rates within the term of the current Stewardship Plan (2018-2023)"

2. Effective dates of increases

Changes which increase the level of an incentive may be implemented immediately but no later than 30 days following TSBC approval. There will be no increases to Processing Incentive rates within the term of the current Stewardship Plan (2018 – 2023).

This would suggest that an incentive rate of \$0 should also be considered until at least the end of 2023.

Moving material up the waste management hierarchy is commendable and aligns with TSBC's mission therefore continuing to send material to the landfill is not an option up for consideration.

The analysis looked at four incentive rate options:

- 1. \$0.00 Give no incentive at this time
- 2. \$60 Give an incentive equal to whole tires that are sent to Heidelberg
- 3. \$95.88 An incentive rate that acknowledges some process but not a full processing
- 4. \$131.76 Liberty's requested amount that aligns with TDF 1 in the Program Policies document

Incentive Rate		Tonnes	Annual		5 Year		Annual Liberty		Annual Liberty	
		Annually	TSBC Cost		TSBC Cost		Savings		Benefit	
\$	-	800	\$	-	\$	-	\$	215,286	\$	215,286
\$	-	1000	\$	-	\$	-	\$	269,107	\$	269,107
\$	-	1200	\$	-	\$	-	\$	322,929	\$	322,929
\$	60.00	800	\$	48,000	\$	240,000	\$	215,286	\$	503,286
\$	60.00	1000	\$	60,000	\$	300,000	\$	269,107	\$	629,107
\$	60.00	1200	\$	72,000	\$	360,000	\$	322,929	\$	754,929
\$	95.88	800	\$	76,704	\$	383,520	\$	215,286	\$	675,510
\$	95.88	1000	\$	95,880	\$	479,400	\$	269,107	\$	844,387
\$	95.88	1200	\$	115,056	\$	575,280	\$	322,929	\$	1,013,265
\$	131.76	800	\$	105,408	\$	527,040	\$	215,286	\$	847,734
\$	131.76	1000	\$	131,760	\$	658,800	\$	269,107	\$	1,059,667
\$	131.76	1200	\$	158,112	\$	790,560	\$	322,929	\$	1,271,601

Chart outlining different incentive rates and their financial impacts.

Liberty has also acknowledged that by increasing the amount of TDF being transported that this will impact their percentage targets. They have committed to adjust their other streams of TDF

to stay below the percentage target. They will monitor TDF vs TDP and will reach out to TSBC well in advance if they are forecasting to exceed their TDF target.

# **Recommendation:**

As can be seen from the data presented, if TSBC were to agree to the ask of \$131.76 and at the potential maximum volumes, the annual financial cost to TSBC is significant – as much as \$158,112 while the cost benefit in this scenario for Liberty could be as much as \$481,041 No matter what rate decision TSBC makes, Liberty is financially better off by making this switch to a minimum of \$215,286.

It could be argued that Liberty should be recognized financially for moving this material from 5R (landfill) to 4R (energy recovery) and reducing the environmental footprint by reducing the transportation, as it aligns with the programs' desire for continuous improvement. However, the significant cost savings to Liberty cannot be ignored along with the fact that the material is not a new product but floor sweepings from the initial shredding process. All of this suggests the incentive should be set at \$0 and classified as TDF4: waste material from the recycling process.