

Calgary Aggregate Recycling (CAR)

Climate Action Alignment & Outcomes



Current Mitigation & Diversions

Calgary Aggregate Recycling operates to divert significant amounts of waste from landfills and reduces carbon emissions significantly. Their operations meet several of the goals as set out in the **Calgary Climate Strategy Pathways** including:

Consumption and Waste

City of Calgary is seeking to divert 70% of waste from landfills by 2025 [p. 20]. CAR's operations have diverted over 266,000 tonnes of materials from City landfills in the first two years of operations and will continue to assist the City in meeting this goal as many City projects are utilizing the wash facility process.

Carbon Removal

Reduction in GHG emissions from waste transportation, reduced virgin materials mining, and reduced virgin materials transportation.

Water Adaptation

Reducing water consumption through storm water collection, reuse of water within wash operations, and use of water from hydro-vac inputs instead of using municipal water.



Greenhouse Gas Emissions Reductions

Green House Gas (GHG) emission reductions are achieved by: providing a shorter distance to CAR than to the Class II landfill locations; reducing virgin aggregate mining activities; and reduced transportation for virgin aggregate mining materials.

The combination of these methods results in **93% reduction in GHG emissions** over traditional disposal and mining operations.

The closest Class II landfill that accepts materials processed at the CAR facility is located roughly 180 km from Calgary's city centre at the Newell Regional Landfill (shown below). Emission savings calculations use this facility for savings calculations vs. the CAR facility located 22 km from the city centre. Limitations on materials include size (6 inches), chloride and other chemical levels, and oilfield waste (CAR has a special approval for certain oilfield projects).

The total GHG emission reduction is calculated with inclusion of the CAR operation emissions less transportation savings for input materials, aggregate mining activities, and aggregate transportation savings.

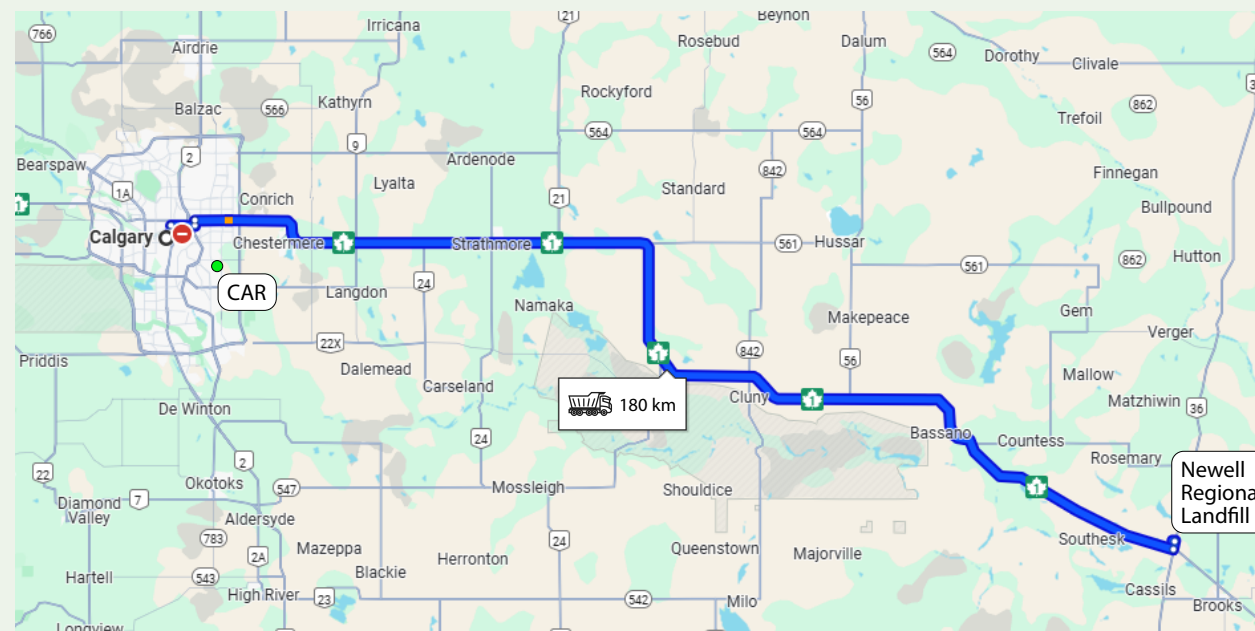


Per Trip Savings Over Landfill

Average Fuel Savings per truckload (L):	247 Litres
Average Carbon Savings per 1000 tonnes of material (TCO2):	30TCO2e
Average GHG Savings per Truck Load (TCO2):	0.57TCO2e
Average Time Saved per Load:	90 minutes
Average Distance Avoided:	160km
Carbon reduction per tonne processed	0.040

Wash Facility Totals

Processed:	293,070 tonnes
Emission Reductions to date:	11,723 tonnes



Exploring Future Applications

CAR is actively exploring new uses for the fines materials. The Climate Strategy Pathways policies and goals sets out opportunities for partnerships with private industry.

CAR is discussing this goal with Calgary Waste to encourage the use of the fines material for landfill purposes of topping and cell division.

Future Operations & Expansion

CAR intends to construct a building cover over the process area in the future and is exploring opportunities to integrate 'green' technologies and processes into this future plan including:

- Water collection from new building roof for process use
- Integration of a solar system on the roof of new building to offset grid power use. (The wash process machinery is powered by electricity.)
- Alignment of new building design with City of Calgary Climate Strategy policies for industrial operations for energy efficiency.

