BISON TRANSPORT

2023 SUSTAINABILITY REPORT

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DEFINITIONS

GHG (Greenhouse Gases) Greenhouse gases are gases in the Earth's atmosphere that trap heat. They let sunlight pass through the atmosphere, but they prevent the heat that the sunlight brings from leaving the atmosphere. Human activities are adding too much of these gases to the atmosphere. The main greenhouse gases are:

- **Water vapor (H_20)** high in the atmosphere, condenses back into liquid water and rains back on Earth. Water vapor blocks heat from escaping the atmosphere, and warmer air holds more water vapor. As Earth heats up, more water vapor can trap more heat.
- **Carbon dioxide (CO_2)** is made up of carbon and oxygen, CO_2 is all around us naturally. It comes from decaying and living organisms, and from volcanoes. CO_2 is released when burning fossil fuels. It is the most important contributor to human-caused global warming.
- **Methane (CH_4)** made of carbon and hydrogen, is a normal gas released from wetlands, growing rice, raising cattle, using natural gas, and mining coal. It traps heat. Scientists consider it the second most important contributor to human-caused global warming of all the greenhouse gases.
- **Ozone (O3)** layer blocks the sun's radiation, which helps protect us from the powerful rays. Close to the ground, ozone acts as a greenhouse gas and can be formed by burning fuel.
- **Nitrous oxide (N_2O)** is a natural part of the nitrogen cycle. Bacteria in soil and the ocean make it. Nitrous oxide is released by some types of factories, power plants, and plant fertilizer. It damages the protective ozone layer and is a powerful greenhouse gas.
- **Chlorofluorocarbons (CFC_S)** are fluorinated gases that are not created in nature. They are used in the manufacture of aerosol sprays, blowing agents for foams, and packing materials, as solvents, and as refrigerants. They damage the protective ozone layer and are powerful greenhouse gases.

Net-Zero Emissions will require a two-part approach: First and foremost, human-caused emissions (such as those from fossil-fueled vehicles and factories) should be reduced as close to zero as possible. Any remaining emissions should then be balanced with an equivalent amount of carbon removal, which can happen through natural approaches like restoring forests or through technologies.

BISON TRANSPORT

Bison Transport was established in 1969 and acquired by James Richardson & Sons, Limited (JRSL) on January 1, 2021. Bison is deeply rooted in Manitoba with a network throughout Canada, the U.S. and Mexico. We proudly deliver award-winning full truckload, full-service logistics, dedicated fleet operations, yard management, warehousing and distribution services to our valued customers, with one of the largest, safest, and most modern fleets on the road today. Our ongoing investments in equipment, facilities, and our people is a testament to the commitment to those we serve and our communities.

1969
Year of Incorporation

3,000+
Tractors

10,000+
Trailers & Containers

4,000+
Employees & Contractors

MESSAGE FROM ROB PENNER, PRESIDENT & CEO

The Canadian Net-Zero Emissions Accountability Act, which became law on June 29, 2021, enshrines in legislation Canada's commitment to achieve net-zero emissions by 2050. We all have a part to play in fighting climate change and limiting the environmental impact of our business.

Bison Transport is eager to participate despite the challenges and continues to identify and manage environment-related impacts from our business. We acknowledge that some changes will be more challenging than others and there are risks and opportunities, but we are taking a thoughtful and supportive approach to make measurable and meaningful progress.

We are leveraging third-party and industry experts to identify potential opportunities and we are working closely with our people, suppliers, and customers to ensure everyone is empowered to be part of the solution. With heart and creativity, Bison is championing a new standard of what it means to a sustainable supply chain partner.

2023 SUSTAINABLITY HIGHLIGHTS

•Setting targets and achievable plans.
•Implementing policies to require or induce lower fuel consumption and sustainability measures.
•Making investments in equipment and technology that reduce GHG emissions.
•Increasing operational efficiencies with route optimization and usage of long combination vehicles and multimodal transport.
•Implementing maintenance practices to maximize equipment performance.
•Continuing driver education and training on fuel saving techniques under a driver's control such as use of cruise control, speed management, optimal braking and acceleration, along with coaching to help drivers meet benchmarks.
•Decreasing negative environmental impacts from waste with the use of sustainable materials, bulk purchasing, recycling, and responsible disposal.
•Implementing industry best practices by being active members in organizations such as Natural Resource Canada's FleetSmart program and the United States Environmental Protection Agency's SmartWay Transport Partnership.

Fuel Efficiency Gains

Investments in driver coaching for fuel performance, fuel efficiency devices (trailer skirts, fairings, low rolling resistance tires, wheel covers, etc.) advancements in technology (electronic engine monitoring, anti-idling devices, adaptive cruise control), and effective policies on speed and idle times, along with efficient multimodal and long combination vehicle (LCV) transportation networks have provided real gains in fuel efficiency.

- Savings of over 164,234 tons of C02 in 2023, benchmarked against moving all freight with 2016 model year tractor.

Eco-Certification & Recognition

An eco-certification involves a third-party assessment as they relate to environmentalism and sustainability. By meeting the criteria, we gain certification to show that Bison's programs are backed by a strong, well managed commitment to sustainable practices that provide positive outcomes.

- The BC Trucking Association (BCTA) launched an innovative eco-certification initiative that acknowledges and certifies motor carriers committed to environmentally responsible practices and fostering a cleaner and greener future for the trucking industry. To achieve the certification, Bison underwent a rigorous assessment process that evaluated our operations, including fuel efficiency, emissions reduction strategies, and fuel management practices.
- Bison was recognized as a SmartWay High Performer, Truck Carriers, Carbon Metrics, for outstanding environmental performance and leadership. SmartWay Partners submit efficiency and air quality performance data to EPA (United States Environmental Protection Agency) annually. EPA aggregates and divides the data into five ranked performance ranges. SmartWay High Performers are partners whose efficiency and/or air quality performance falls within the top-ranked performance range. Fewer than 10 percent of all SmartWay carriers operate fleets efficient enough to make the SmartWay High Performer list for carbon emissions.

Battery Electric

Bison has 40 reservations for the Tesla full battery electric (BEV) tractor. While the development of this tractor was delayed for a variety of reasons, including the COVID-19 pandemic and a global parts shortage, Tesla has stated they will build units starting next year, but these will only be available for deployment in the US market. We continue to work with Tesla to identify the optimal network for Bison.

Hydrogen Fuel Cell

Compared to diesel, there are many advantages that hydrogen can bring, including eliminating harmful tailpipe emissions. When converted to electricity using a fuel cell to power an electric drivetrain, hydrogen also delivers the high torque and power desired to gain traction and accelerate with heavy loads.

- Bison will be operating a Nikola hydrogen fuel cell vehicle exclusively for the next 12 months. Part of the test includes the installation of the first commercial 700 bar fueling station in Alberta. Our intention is to operate the unit in the Edmonton region with frequent round trips to Calgary. We are interested in understanding the full operating characteristics of the technology, determining its limits in daily operations.
- Deploying a second hydrogen vehicle through AMTA's (Alberta Motor Transport Association) three-year AZETEC (Alberta Zero Emissions Truck Electrification Collaboration) project which is expected to set a new bar for the size and travel distance for heavy-duty hydrogen fuel cell powered vehicles. This vehicle will be a proof of concept highlighting the ability of hydrogen fuel cell and electric drivetrain to haul weights up to 63,500kg hauling two 53-foot trailers in a LCV (long combination vehicle) configuration. These tractors are one of a kind, hand built, engineered specifically for these operations.

Lithium Battery Electric Auxiliary Power Unit (APU) and Solar Panel Charging

All electric APUs can provide ample power to run the HVAC unit, appliances, and other electronics, even when the tractor is not running. Lithium APU batteries charge more quickly than other batteries and weigh half as much.

- All Bison tractors run with full battery electric APU's that are supplemented with engine auto start as a back-up. We are currently testing lithium batteries in these units that will extend the run time of the full battery APU, reducing the need to run the engine as a support source of energy.
- We are also continuing our investigation into solar panels for our tractors to provide charging of the APU hoteling batteries. We have tested these in the past, the technology continues to improve. Today units are available with charging capabilities that far exceed earlier versions. The installation of the units is also improved with a factory fit.

Natural Resource Canada (NRCan) Green Freight Program

NRCan opened requests for grants under Stream 1 of the recapitalized Green Freight Program (GFP), with a focus on assisting fleets to reduce fuel consumption and GHG emissions from on-road freight operations by offering grants up to 50% towards the cost of fleet energy assessments and truck equipment retrofits. To take advantage of the program, applicants must first complete a fleet energy assessment following NRCan's Assessment Guidelines. Bison received $249,836 through the program.

Manitoba Efficient Trucking Program

The Efficient Trucking Program (ETP) provides rebates for eligible applicants who installed fuel saving devices or technologies related to tire and rolling resistance, aerodynamic technology and anti-idling technology of their heavy-duty vehicles or trailers. The program offered up to 50% of the cost of eligible devices/technologies. Bison received $365,440 through the program.

Identifying the Most Effective Technology and Accelerating Technology Implementation

Collaborating with organizations that have the expertise and specialize in testing efficiencies that can be gained through technology provide valuable data so that we can make informed fact-based decisions, purchasing and implementation strategies. Bison is committed to understanding the emerging technologies and participating in live tests. We value their expertise and commitment to sustainability. Bison holds memberships in the following:

- PIT Group-FPInnovations which is an unbiased, neutral testing organization. They evaluate technologies that promote efficient energy use in the commercial transportation, municipal and transit industries across North America. Bison is investigating testing aerodynamic packages for the optimal combination of devices for maximum efficiency. We have tested many products over the years, we want to understand what is the best combination for the maximum return.
- Freightliner Fleet Council and Electric Vehicle Council, is giving us a voice and insight into new technologies. By providing viable use cases, we can evaluate and integrate solutions into our operations.
- Peterbilt Council is an opportunity to review next generation vehicles and provide feedback.

SECTION 1 - LAND

RESOURCE, WASTE REDUCTION, RECYCLING EFFORTS

Bison Transport has a documented Waste Management Policy and Procedure which requires Bison to take all measures that are reasonably practical to reduce waste at its sources; reuse waste components where it is safe and practical to do so; recover or recycle fractions of waste stream; and properly dispose of final wastes by the most environmentally suitable means to comply with the Canadian Environmental Protection Act.

Waste generated from terminals will be segregated, handled, transported, and disposed of in accordance with the procedures laid down in this policy and procedure to prevent pollution of the environment or harm to human health. As landfills are known to leak toxic chemicals into the soil and water the intent is to responsibly keep waste out of landfills and use resources wisely.

•Reduce-Best approach to waste is to reduce it at source. Replace single use items with reusable ones, buy bulk, replace items that come in excessive packaging with one that has none, less or comes in biodegradable packaging.
•Reuse-If you cannot reduce it, then try to reuse it. Donate unused items if possible and repair broken items if safe to do so.
•Recycle-If you cannot reuse it, then try to recycle it.

Tires

Bison reuses tires on tractors and trailers up to 3 times. Retread tires, sometimes known as recap tires or remolded tires, have undergone a remanufacturing process to replace the worn tread on used tires with new tread to help extend the life of the tire. After the 3rd use, tires are picked up for recycling.

- Retreading tires is economical and environmentally friendly using 30% less energy and 56 fewer litres of oil compared to new tires.
- Approximately 12, 500 tires are retreaded annually.

Oil and Filter Replacement Intervals

Using an oil analysis program and sourcing premium filters, engine oil changes have advanced to every 100,000 or 120,000 kilometers, depending on the engine manufacturer. Advanced engine oil changes have resulted in:

- Reducing oil consumption annually by approximately 56,000 litres based on 700 tractors.
- Reducing annual filter consumption by approximately 1,100 filters.

Oil, Coolant, and Filter Recycling

Used oil, coolant, and filters are collected during maintenance of fleet equipment. Where maintenance facilities are equipped, used oil is put in the oil burning furnace to provide heat. Otherwise, excess oil is recycled or properly disposed of. Recycling oil takes the worn oil and re-refines it to produce base oil destined to be blended with new additives and be used again as a lubricant. Recycling of filters uses hefty presses to compact the filters, collecting the oil that's left in them-roughly 33% of their weight-and leaving nothing at the end of the process but filter batches turned into bricks of steel that can be melted and reused. Similar to recycling oil, coolant is collected and re-refined by a distillation process to produce new fluids.

- Approximately 70,000 liters of used oil is sent for recycling annually.
- Approximately 5,500 used filters are sent for recycling annually.
- Approximately 23,000 liters of used motor oil is used annually in waste oil furnaces to provide heating.

Scrap Metal Recycling

Cast metal, mixed steel, aluminum, and brake drums are recycled. The most significant benefit of recycling scrap metal is that the recycled material can be remanufactured repeatedly. Metal mining and processing require a lot of energy, resulting in large amounts of CO_2 being emitted into the atmosphere. By recycling instead of mining, less energy is required, and therefore fewer emissions are generated.

- Approximately 40 tons of scrap metal is recycled annually.

Battery Recycling

Equipment batteries that fail during shop load maintenance or repair testing are recharged and retested in the battery testing station. If the battery passes, it will be used again. If the battery fails, it will be submitted for any applicable warranty. All unusable batteries are taken to be rebuilt or recycled. There are four parts of the battery that are recycled-the plastic case, the lead content, the sulfate crystals, and the electrolyte.

- Approximately 1700 batteries sent for recycling annually.

Solvent Recycling

Clean solvents are critical for parts washing and cleaning applications. Solvent can continue to be used until the solvent becomes saturated and cannot absorb any additional waste. At that point, the dirty solvent will either need to be replaced with new solvent or recycled for reuse. As an alternative to solvent, the Winnipeg maintenance shop uses an aqueous parts washer.

- Solvent stations filter the solvent, providing a longer useful life, only replacing the solvent once saturated or too dirty for use.
- The aqueous parts washer provides the cleaning power of a solvent parts washer but uses cleaning solutions that are safe and biodegradable.

Bulk Systems and Reusable Containers

Bison utilizes bulk systems and reusable containers with appropriate labels for windshield washer fluid, coolant, engine oil, and brake cleaner. For items such as windshield fluid and diesel exhaust fluid (DEF) that drivers require on the road, drivers are supplied reusable containers, that can be refilled at the bulk station.

- Industry statistics show reusable containers have an improved carbon footprint of over 30% when compared to similar single-trip/one-time use packaging.

E-Waste Collection

End-of-life computer and peripheral devices contain everything from glass and plastic to gold, silver, copper and palladium, that can be recovered and recycled.

- E-waste is sent to a collection site for recycling.
- Used toner, drums, and ink cartridges are sent for recycling.

Oily Rags

Oily rags are placed in the oil rag collection site where they are removed by a contracted service. The service will launder and replace towels.

- Industry statistics show reusable towels reduce waste by 62%.

Blue Box Recycling and Compost Collection

Used paper and cardboard, plastic bottles, and aluminum cans are collected and sent for recycling. Each workstation has a blue box. A compost bin is situated in coffee/lunch areas for compostable items such as vegetable and fruit scraps and coffee grounds.

Pallet Return

Marked vendor pallets are returned for reuse to the original local vendor. Orange and blue color-coded pallets are taken to Bison's warehouse for reuse. Plain wood shipping pallets are sent to a facility for repair, resale, and reuse.

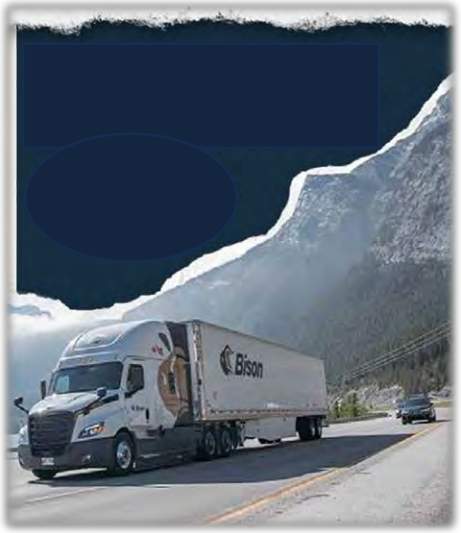
Facility Efficiencies

Many older buildings were not designed with their carbon footprint in mind so there is a greater opportunity to lower energy consumption in these buildings. Facilities have installed LED lighting, others have heat pumps, others take advantage of passive solar heating and cooling, and some maintenance shops use waste oil furnaces for heat.

LED Lighting

LED light bulbs use around 85% less electricity than normal incandescent bulbs, and 50% less than fluorescent tubes. The efficiency of a light bulb is typically measured in lumens per watt. LEDs are better at efficient lighting because they provide higher lumens per watt than other types of bulbs and last up to 6 times longer.

- Approximately 913 tons of CO_2 per year has been saved with LED lighting in our facilities.



SECTION 2 - AIR

REDUCING EMISSIONS, AIR QUALITY IMPROVEMENTS

The U.S. Environmental Protection Agency and the Department of Transportation's National Highway Traffic Safety Administration jointly finalized standards for medium and heavy-duty vehicles that would improve fuel efficiency and cut carbon pollution to reduce the impacts of climate change, while bolstering energy security and spurring manufacturing innovation.

The final phase two program promotes a new generation of cleaner, more fuel-efficient tractors by encouraging the development and deployment of new and advanced cost-effective technologies. The product of four years of extensive testing and research, the vehicle and engine performance standards would cover model years 2018-2027 for certain trailers and model years 2021-2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO_2 emissions, save on fuel costs, and reduce oil consumption.

Given the integration of the North American vehicle manufacturing sector, these standards are aligned with Canadian corresponding standards and test procedures.

Diesel Engines

Switching from diesel engines to a power source that produces no CO_2 emissions is a progression. Emission regulations levied on diesel engines and heavy trucks have become progressively stronger, with the EPA's (Environmental Protection Agency) next round of standards set to take effect with model year 2027. Using less fuel while moving the same amount of freight reduces emissions.

- Bison's 2023 model year tractor MPG outperforms the 2020 model year by 8.7%.
- As of end of 2023, 37% of our Canadian company fleet miles were run by the 2023 (or newer) tractors.

Multimodal Transportation

Bison has developed an intricate and efficient multimodal transportation network that allows movement of freight via long combination vehicles (LCVs) and rail (intermodal), both of which have substantial impact on greenhouse gas (GHG) reduction when compared to the traditional model of 1 tractor pulling 1 trailer.

Long Combination Vehicles (LCVs)

Bison operates the largest LCV network in North America. LCVs employ one tractor to pull 2 trailers and are estimated to save on average of 28.8 liters of diesel per 100km of travel when compared to single-trailer configurations moving the same volume of freight. By increasing weight per km, less GHGs are emitted. LCVs on average are 30% more fuel efficient than the traditional single trailer model.

- LCV km for 2022 was 38.8 million and in 2023 it increased to 44.4 million.

Intermodal Containers

By loading cargo into intermodal containers, shipments can move seamlessly between road transportation, trains, and cargo ships. There is a 75% GHG reduction using intermodal containers on rail versus road transportation.

- Bison's intermodal division ran 148 million km on the rail in 2023, up from 140 million km in 2022 and 125.5 million km in 2021.
- Reduction of CO_2 from the intermodal network (compared to tractor-single trailer configuration) was 110,424 tons of CO_2, up from 104,594 tons in 2022 and 93,154 tons in 2021.

LTL (Less-Then-Truckload)
LTL is a freight transport service in which several partial loads, all of them being forwarded to the same location or area, are shipped together in a single trailer or added to a partially loaded trailer, to maximize the amount of freight in the trailer. Moving a single trailer compared to moving several partially loaded trailers reduces GHG emissions.

Electronic Control Modules (ECM) and Speed Limiters
Tractors are equipped with ECMs, tracking fuel efficiency, engine efficiency, and to govern the speed of the tractor. By fine-tuning the ECM settings, such as adjusting the injection timing and air-to-fuel ratio, we can maximize fuel combustion. With in-cab diagnostic and fuel efficiency modules, drivers monitor fuel efficiency and maintenance can service underperforming engines. Speed limiters govern the speed of the tractor to a maximum of 100 km/h, which increases safety and fuel economy.

- Industry statistics estimate a 4L/100km fuel consumption increase for every 1km/hour increase in speeds over 95km/h.

Powertrain
Tractor engines are designed with an operating range in mind, a band of engine rpm where they operate at peak fuel efficiency for the work they're doing. Regardless of the engine make or model, the biggest impact on the engine's efficiency comes from the choice of geartrain and highway cruising speed. At Bison, all powertrains are designed to operate at the lowest engine speed. Lowering the number of engine revolutions at highway cruising speed saves fuel. At a lower rpm, there are fewer individual combustion events per km, and each one consumes less fuel.

- Industry statistics estimate a 1% fuel efficiency savings for every 100-rpm drop in engine speed at highway cruising speed.

Gear Ratio
Bison's gear ratio specification contains the most efficient ratio for what the tractors are purchased to perform. Day cabs are operating a different ratio than the tractors with sleepers. Higher ratios (with a lower numerical value) give better torque/acceleration and lower ratios allow for higher top speeds and better fuel economy. Higher ratios mean the engine has to run faster to achieve a given speed. Lower ratios allow the engine to run more economically to maintain that given speed.

Engine Programming
For optimal performance and efficiency, the engine's adjustable features and parameters are reviewed with the manufacturer's engineering department before and after tractors are placed into service. These include setting cruise control and road speeds, maximum engine brake activation speed, and gear down protection is activated which limits the driver from operating in a lower gear and consuming more fuel.

Anti-Idling Devices
Anti-idling devices such as the auxiliary power unit for sleeper units, provides sleeper air conditioning and heat, charges tractor batteries, and warms the engine to help with cold weather starting, without the need to idle the tractor engine. Maintaining a comfortable cab and sleeper environment for the driver under hot or cold weather conditions is necessary to driver safety and satisfaction. With added shore power, a driver can operate a microwave, refrigerator, and other 120-volt appliances, without idling.

- Industry statistics estimate a tractor stopped and idling, is achieving zero MPG, consuming about a gallon (U.S.) of fuel per hour, decreasing overall fuel efficiency by 1%.

Automated Transmissions
An automated transmission saves fuel by optimizing shifting using computer-controlled actuators. Rather than a driver shifting the gears, the tractor's computer does. Optimal shifting is difficult to achieve with manual transmissions as they are dependent on the shifting skills of the driver. All Bison tractors are equipped with automated transmissions.

- Industry statistics estimate fuel efficiency increases up to 2% with automated transmissions.

Cruise Control and Smart-Cruise
Cruise control assists in maintaining a steady speed and with smart-cruise in maintaining adequate space so as to avoid having to brake or accelerate in traffic. Cruise is standard specification in Bison tractors.

- Industry statistics estimate up to 6% savings in fuel with the use of cruise control.

LED Lights

Tractor and trailer LED lights are durable, more impact resistant than halogen bulbs and can withstand heaving vibrations, thereby needing less replacement which creates less waste. LED lights use less energy than other lights, last 10 times longer, and improve visibility. They do not contain harmful substances like mercury, which are present in traditional bulbs. LED lights are a standard specification for new tractors and trailers entering the fleet. 95% of Bison's fleet is now equipped with LED lights.

- Industry statistics estimate 85% less electric system use.

Light Weight Tractor and Trailer Components

Reducing weight can provide fuel economy benefits, but it is hard to measure fuel savings as the reduction in equipment weight is usually eliminated by increased payload capacity. The gain is then measured as the ability to transport more freight with the same amount of fuel if using heavier equipment.:

- Industry statistics estimate each 454kg cut improves fuel economy 0.04%.

Aerodynamic Profile

When a tractor pushes through the air, it is met with significant aerodynamic resistance. While air resistance occurs at any vehicle speed, its relationship to speed is not proportional. So, when speed doubles, air resistance increases by four times. If speed triples, the resistance increases by nine times, and so on. Air resistance can account for as much as a third of fuel losses on a typical long-haul diesel operation. The bulk of engine power, up to 80 kph, is used to overcome rolling resistance (friction). Above 80 kph, the bulk of the engine power is used to overcome aerodynamic drag. Items such as wheel covers, gap fairings, trailer skirts, low rolling resistance tires, and general overall design greatly improves the aerodynamics. Aerodynamics has one of the biggest direct influences on fuel efficiency. 95% of Bison trailers are equipped with a full aerodynamic package.

- Industry statistics estimate for every 2% reduction in aerodynamic drag results in approximately 1% improvement in fuel efficiency.

Gap Fairings

Aerodynamic drag reduction is one of the main issues in fuel saving and environmental gas emission. In general, 50% of the total aerodynamic drag is induced from the region in the front surface of the vehicle and the gap between the tractor and trailer. Gap fairings divert airflow that would normally stream in the gap between the tractor and trailer, against the trailer front face. Gap fairings is a standard specification in Bison tractors.

- Industry statistics estimate a 2% improvement in fuel efficiency.

Wheel Covers

The wheels themselves can trap air as they spin, creating drag. Wheel covers can help reduce drag by closing air-trapping gaps and creating a more aerodynamic surface. All Bison tractors are equipped with wheel covers.

- Industry statistics estimate wheel cover kits can reduce fuel consumption by approximately 0.93% for tractors through independent third-party tests.

Trailer Skirts

Trailer skirts are a set of panels that attach to the undercarriage of the trailer from the landing gear to the front face of the front trailer axle and are designed to reduce fuel consumption by reducing the aerodynamic drag caused by the trailer's wheels and axle components. This helps save fuel by placing less strain on the drivetrain, making it more efficient at higher speeds.

- Industry statistics estimate a 4-7% improvement in fuel efficiency.

Trailer Tails

Comprised of a set of collapsible panels, which fold out from the rear of the trailer, creating a tapered shape that reduces drag from the low-pressure wake created behind the trailer. The panels open at speeds over 56 kph.

- Industry statistics estimate a 1-5% improvement in fuel efficiency with trailer tails alone and in concert with trailer skirts a 9% improvement.

Aerodynamic Mirrors
Mirrors increase total aerodynamic drag. Poor aerodynamics increase drag, requiring more energy to overcome wind resistance. Aerodynamic mirrors are a standard specification for Bison tractors.

- Industry statistics estimate a 2% to 3% reduction in aerodynamic drag with well-designed mirrors, resulting in a 1% improvement in fuel efficiency.

Aerodynamic Mud Flaps
While it is not feasible to determine the exact percentage of fuel savings when using aerodynamic mud flaps, they do reduce drag by allowing the passage of air but still deflecting water and debris. Aerodynamic mud flaps are a standard specification for Bison tractors and trailers.

Low Rolling Resistance Tires
Rolling resistance is the friction that occurs when the surface of tires meets the road and is said to account for 30-33% of the total fuel cost of a modern, aerodynamic tractor. Lower resistance improves fuel economy.

- Low rolling resistance tires can provide up to 4-5% in fuel savings. The fuel saving and emission reducing benefits of low rolling resistance tires have been verified by the Environmental Protection Agency's (EPA) SmartWay program.

Automatic Tire Inflation System (ATIS)
Underinflated tires can have a significant impact on overall fuel efficiency. Tractor and trailer ATIS installed on tractors and trailers monitors tire inflation pressure relative to a pre-set target and re-inflating tires whenever the detected pressure is below the target level. The system alerts the driver that the tires are being re-inflated. 95% of Bison trailers are equipped with ATIS. Underinflated tires can cause excess heat to build up, which can cause irregular wear and affect fuel economy.

- Industry statistics estimate that there is a drop in fuel mileage of about 0.2% for every 1 psi drop in the recommended tire pressure

Fuel
Bison mitigates fuel costs, improves fuel economy and reduces Bison's carbon footprint by continually developing efficient fuel networks, efficient equipment operating strategies (LCV, multimodal) leveraging high-tech solutions, and with equipment specifications that reduce emissions and increases fuel efficiency. In 2011, Bison became the first Canadian transportation company to sell carbon credits as a result of the reduction in fuel consumption. Using historical fuel economy data, Bison's fuel department establishes a fuel efficiency benchmark for the different tractor types in Bison's fleet. Data helps identify unnecessary idle time and whether a driver is revving the engine too high for the vehicle speed, which adversely affects fuel economy. Optimized routing provides the driver with the most efficient routing to their destination, resulting in reduced off route mileage, increased productivity, and savings in fuel. Sharing data, ranking driver performance and coaching drivers so they know where improvements can be had, has increased fuel efficiency.

- 2023 single highway fleet's MPG was 2.6% better than 2022. Every mile traveled by these units is 0.23kg/1.61km of CO_2 reduction.

Engine Oils
Motor oil is important for maintaining optimum engine performance, reducing fuel consumption and emissions Low viscosity engine oils have arisen as one proven cost-effective solution to increase the engine efficiency. Oil and lubricant regimens are re-evaluated as new products come to market that can positively affect fuel savings. Industry statistics show:

- Industry statistics estimate 2% improvement in fuel efficiency with low-viscosity lubricants.

Tire Alignment
Bison's maintenance program includes inspections for tire condition and regular alignments checks. Properly aligned wheels ensure even tire wear, extending tire life and improving fuel efficiency.

- Industry statistics estimate proper tire alignment extends tire life up to 20% and improves fuel efficiency by 1-3%.

SECTION 3 - WATER

CONSERVING WATER, PROTECTING/IMPROVING WATER QUALITY

Water is uniquely vulnerable to pollution. Fresh water is a limited resource, making water conservation an important factor for the environment.

Energy is needed to filter, heat and pump water so reducing water usage saves energy, reducing our carbon footprint. Conserving water also keeps more in our ecosystems which is especially important during drought periods.

We are properly disposing of chemical cleaners, oils sourced from petroleum, nonbiodegradable items, etc. to keep them from going down the drain so they don't enter the environment and contaminate our land and water.

Oil Water Separators

There are oil water separators in all the maintenance shop pits and wash bays to remove oils, hydraulic fluids, petroleum-based goods and fuels from the water. The use of an oil water separator system has several advantages and the major advantage of using such system is that it lessens pollution in the environment. All pits are regularly cleaned of pit waste, serviced, and inspected for any cracks or leaks. Waste from the wash bay and shop grates is picked up and properly disposed of.

Backflow Preventers

Backflow preventers have been installed on all water supply lines coming into buildings as well as on any glycol systems. All sprinkler systems are protected with backflow preventers and isolated from drinking water systems.

Spill Containment/Trays

Spill containment/trays are used at all waste storage tanks and drums to capture any leaks and spills, keeping the hazardous product from entering drains should there be an accidental release.

Wash Bays

Wash bays have high efficiency boilers installed which run at 92% efficiency with an extremely low NOx level versus older boilers which operated at 80-84% efficiency. Wash bays are also equipped with water recycling system and automated trailer wash system that contributes to water savings.

Automated Reefer Wash

Alberta's wash bay utilizes an automated cart that performs food grade washouts on reefer trailer units. Manual washing involves people with pressure wash guns to clean surfaces. Automated interior trailer wash systems use a self-propelled cart with several high-pressure nozzles. The cart travels the entire length of the trailer and can clean and sanitize faster than manually cleaning. This system provides for consistency in the amount of soap and water used, eliminating the excess use when washouts are performed manually.

Water Efficiency

Bison provides shower and laundry facilities for Drivers. Faucet aerators, energy efficient showerheads, and overall bathroom water efficiency are key items to consider when trying to be more energy efficient. Water-efficient showerheads can conserve up to 50 percent of water usage. Energy Star certified clothes washers use about 20% less energy and about 30% less water than regular washers. Dryers use about 20% less energy.

SECTION 4 - PEOPLE

TRANSPORTATION SAFETY WITH NORTH AMERICA'S SAFEST FLEET

Every mile driven, load booked, and repair performed presents an opportunity to put safety in the forefront. At Bison, safety is the focus and responsibility of all personnel. Whether it's our professional Drivers who exercise their Right to Decide in the face of unsafe conditions, or our training, safety, maintenance, and operations teams who help ensure everyone gets home safely.

Bison is recognized as the Safest Fleet in North America by the Truckload Carriers Association (TCA). Bison has taken 1st place for the 18 consecutive year and the Grand Prize for the 14th consecutive year and 17 times since 2005 in the large carrier division. No other carrier has achieved this level of recognition. Awards are based on accident frequency ratio per million miles driven with the grand prize being awarded for having an exceptional safety program judged to be the best in the commitment to improving safety on North America's highways. Candidates for the award undergo an audit by independent experts to verify accident frequency ratio.

Bison's safety culture grew from the realization that being a compliant company was not making Bison a safe company. Compliance demonstrated that we understood regulations and had policies and procedures in place, but the results of being compliant did not translate to ensuring that everyone would be safe. To change this, we engaged and empowered everyone at all levels, in all job capacities, in the protection of people. When people across the organization realized the real impact their actions could have on safety, mindsets changed, we saw tangible results, and we built trust in our safety program. When people trust that Bison is willing to sacrifice profit and its own interests to put its peoples' safety and livelihoods first, people give back and from that we gained a true safety culture.

Getting home to what matters most is at the heart of our "right to decide" policy. Three simple words that empower people to make decisions that protect their safety and the safety of others. Everyone has the responsibility and has the authority to discontinue any task if it is unsafe to proceed. For drivers, the right to decide policy is not just weather related, it includes the condition of the equipment, the condition of the roads, and just as important is the condition of the driver. Because the driver has the hours left and a load to deliver, it doesn't mean they should be driving. If ill or fatigued, or any other circumstance dictates it is not safe to proceed, drivers are to use their right to decide and pull over to a safe location until safe. The only thing we ask is that the driver communicate with us so we can be assured of their safety and operations can do their job which is to take the pressure off the driver. Operations will repower, reschedule, and action any other planning and communication decisions.

"I know that every single person in the company, right up to the president, is behind me when I make that choice to pull over. The load is not the most important thing to Bison. The drivers are." | Treana Moniz, Company Driver | Bison Driver Advisory Board Member

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