

Vehicle Consumables

What are the key green issues?

» Resource use and Greenhouse Gas Emissions:

- **Fluids:** Oils, lubricants, and antifreeze that disperse in the air or are improperly disposed of (e.g. poured into the sewer) enter into the biosphere, break down, and lead to the accumulation of CO₂ or phosphorus.
- **Tires:** The manufacture of a new light-duty tire requires 26 to 30 litres of oil. Ninety-five percent of a tire's energy consumption occurs during use.

» Pollutants and Toxins:

- **Tires:** Process emissions include volatile organic compounds (VOCs) and hazardous air pollutants (HAPs), and are most problematic with large-scale facilities.

» Water Pollution:

- **Tires:** Zinc is one of the most significant pollutants resulting from rubber processing and is released largely due to improper housekeeping in processing facilities and disrupts drinking water and aquatic ecosystems.

Vehicle consumables are goods that need to be regularly replaced because they wear out or are used up, as the vehicle is used over time. They include, but are not limited to, oil filters, windshield wiper blades, power steering fluid, transmission fluid, tires and air filters. For the purposes of this factsheet, we limit vehicle consumables to vehicle fluids such as oils and lubricants, coolants, and antifreeze, as well as tires.



How do greener vehicle consumables advance Government's strategic priorities?

✓ Reducing Energy, Resource Use and Toxins

Tires: Improved tire design and proper inflation reduces rolling resistance and leads to direct improvements in fuel economy and thus cost savings.

Fluids: The fluids required to maintain and operate vehicles (such as lubricants, oils and antifreeze) substituting materials within these fluids to more nature-like substances reduces negative environmental impacts. Recycling and re-using engine oil helps preserve crude oils. It takes around 3.7 litres of used oil to create around 2.3 litres of engine oil compared to about 155.4 litres of crude oil needed to the same 2.3 litres.

✓ Reducing Unnecessary Waste

Tires: Used tires should be disposed of properly, typically directed to the scrap tire market where they can be recycled into other useful products or burned in combustion turbines for energy recovery. Newfoundland and Labrador has a Used Tire Recycling Program for tires from all passenger vehicles, to light and medium trucks that allows used tires to be returned to any tire retailer or other designated locations, at no cost.

Myth Buster

Used engine oil is not inferior to standard motor oil. Unlike any other used product that tends to degrade because of use and contaminants like dirt or water, the base oil in used engine oil doesn't degrade, only the additives. The base oil is extracted from the refining processes done in factories. Once that is done, additives are introduced to the finished product.

| Recommended | Why is it important? | How do I know I am getting it? |
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| FLUIDS | | |
| <p>✓ Look for re-refined automotive engine oils certified by Green Seal</p> | <p>Re-refined motor oil is recovered from used product and rejuvenated for reuse as an alternative to “virgin” oil products, thus reducing resource use. Buying re-refined motor oils also reduces the upstream land-use challenges associated with finding and producing crude oil.</p> | <p> The Green Seal™ Standard for Re-refined Engine Oil gives assurance that products adhere to environmental health requirements such as re-refined oil content, reduced toxicity of additives and reduced toxicity in packaging.</p> |
| <p>✓ Ensure that service maintenance garages use re-refined and recycle used oil</p> | <p>Using re-refined oil reduces resource use.</p> | <p>Assurance from collection companies of final use for used materials and verification of the same.</p> |
| <p>✓ Look for vegetable based lubricants</p> | <p>In North America, the majority of vegetable-based oils are derived from renewable soy and canola, thus avoiding many of the upstream pollution effects from crude oil extraction and refining. They also have low volatile organic compound (VOC) emissions.</p> | <p>Check with your supplier for availability of vegetable based lubricants. They may be more expensive due to higher raw material costs. Initial purchasing costs however can be offset when considering that end-users often use less of them per application and that their use may result in reductions in environmental and safety penalties in case of spills, parts wear, maintenance costs and disposal fees.</p> |
| <p>✓ Look for glycol free antifreeze and engine coolants certified by ECOLOGO™</p> | <p>Is toxin free, thus reducing health risks and environmental impact.</p> | <p> Product is certified by ECOLOGO™, assuring reduced health and environmental impacts.</p> |

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| TIRES | | |
| <p>✓ Purchase of low rolling resistance (LRR) tires (an RRC of less than 0.0105) in accordance with SAEJ1269 and/or purchase of retread, i.e. remanufactured tires</p> | <p>LRR tires have less resistance in rolling and help improve the vehicles fuel economy. 1.5–4.5 percent savings are possible for high rolling resistance tires.</p> <p>Buying retread tires saves up to 70 percent of the oil and materials needed to make a new tire.</p> | <p>LRR tires come standard on most new vehicles but they are not typically manufactured or marketed as replacement tires. The primary measure of tire rolling resistance is the “rolling resistance coefficient”, or RRC. Request an RRC of less than 0.0105 in your bidding document and ask bidders to disclose their RRC in accordance with SAEJ1269 (one of The Society of Automotive Engineer’s procedures for measuring tire rolling resistance).</p> <p>Specify for replacement tires with characteristics that tend to reduce rolling resistance, such as:</p> <ul style="list-style-type: none"> • Larger rim diameter • Shallower tread • Lower speed rating |
| <p>✓ Use of lead-free wheel weights, e.g. steel wheel weights</p> | <p>Around 4.5 ounces of lead are clipped onto the tires of a typical car for wheel balancing. Dropped lead from wheel weights exposed to air, water, vehicle and foot traffic may degrade into fine particulates posing risks to exposed individuals for brain and kidney damage.</p> | <p>Lead-free wheel weights come standard on many new vehicles. Ask the dealer to verify the lead free status of wheel weights.</p> |
| <p>✓ Proper disposal of tires to retreaders or the scrap market</p> | <p>Ensures that tires don’t end up in the landfill.</p> | <p>Verify with your Used Tire Recycling Program that returned tires are properly disposed of and re-directed to re-treaders.</p> |
| <p>✓ Proper disposal of lead weights to a reprocessing facility</p> | <p>Ensures that lead weights, which are toxic don’t end up in the landfill and impact water systems.</p> | <p>Verify with your Used Tire Recycling Program that lead weights of collected tires are directed to reprocessing facilities.</p> |

What else could I look for?

In addition to the minimum recommended criteria outlined above, there are stronger green attributes you can look for when making your purchasing decision.

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| Proper inflation, tire rotation, inspection during inflation check and alignment, and monitoring of rated and actual fuel economy of vehicles on which the tires are mounted | Maintaining correct tire inflation pressure helps optimize tire performance, reduces rolling resistance and increases fuel economy. | Make sure that regular tire inflation checks are part of fleet management operations. Ensure that regular fuel economy measurements are integrated into fleet management. |
| Consider expanding oil change intervals | Many vehicle owner manuals are still recommending changing your oil every 5,000 kms; however with today's modern oil and engine technology intervals can be as much as 10,000 kms. | Verify with your maintenance service provider when oil changes are really necessary. |

Resources

- Responsible Purchasing Network, [Responsible Purchasing Guide Light-Duty Fleet Vehicles](#)
- Responsible Purchasing Network, [Responsible Purchasing Guide Tires & Wheel Weights](#)
- [City of Richmond Environmental Purchasing Guide](#)
- Resort Municipality of Whistler, Sustainable Purchasing, [Product Assessments. Oils & Lubricants](#)