

# enviroTruck

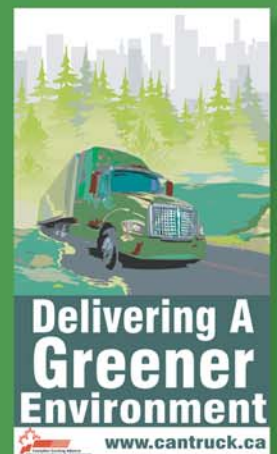
## The Next Step in Cleaner, Greener Transportation



Canada could be on the road to cleaner air and lower greenhouse gas emissions as a result of a major environmental initiative from the trucking industry. The CTA's enviroTruck program will ensure that the trucking industry is as clean and green as possible by tackling both air quality and climate change challenges through the cooperative effort of motor carriers, industry manufacturers, and government. The industry on its own is off to a great start. A new generation of smog-free truck engines and ultra-low sulphur diesel fuel has recently hit the market. The exhaust from the smog-free trucks will actually be cleaner than the air in some major cities! Now the focus is on accelerating the penetration of these super-clean trucks into the Canadian fleet. At the same time the industry is seeking to adopt proven new technologies to further improve fuel efficiency – and fuel efficiency is the chief weapon in the fight to reduce greenhouse gas (GHG) emissions. To learn more, take a look inside this brochure.



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## The Era of the Smog-Free Truck: We Are There!

The creation of the smog-free truck – which is a regulatory requirement in Canada -- required two things:

- (1) A giant leap in truck engine technology; and
- (2) The development of super-clean fuel to power those engines.

The 2007 model year truck comes equipped with the most advanced technology available to slash truck engine emissions. Not only are the new truck engines clean burning, they are also equipped with a particulate trap that filters out harmful particulate emissions before they are released into the atmosphere. In 2010 (again by law) the next phase of smog reductions kicks in with the virtual elimination of NOx emissions (the main cause of ground level ozone).

In order to fuel the smog-free engine, a new, ultra-clean, fuel needed to be developed. This new grade of truck diesel fuel was introduced in 2006, and cut the sulphur content in truck diesel fuel by 97%, to 15 parts-per-million from 500 parts-per-million.

The smog-free truck is expected to lead to a 3 million kg reduction in particulate matter (PM) emissions or the air quality equivalent of removing over 100,000 trucks from the road. It should also lead to a 140 million kg reduction in nitrogen oxide (NOx) emissions, or the equivalent air quality impact of taking almost 90,000 trucks off the road. Cleaner air reduces health care costs and increases the quality of life for all Canadians.

### The Challenge: Getting the New Trucks on the Road

The key to enabling the trucking industry to make the largest possible contribution to cleaner air is to get as many of the new trucks into the fleet as possible. There are some roadblocks to making this happen. For starters, the price of the 2007 model year engines is about 7% to 10% higher than previous models. Maintenance costs are also higher. Moreover, while the new trucks will be virtually smog-free, the combination of the new engines and the new truck diesel is less fuel efficient. These fuel efficiency "penalties" combined with the increased purchase price and maintenance costs, have given trucking companies concerns about purchasing the new trucks. After a pre-buy in 2006, a major downturn in the manufacture and purchase of 2007 model year equipment has ensued.

### The Goal: Clean Air AND Reduced GHG

Canada's environmental challenge encompasses both air quality and climate change. So, if we can get more of the smog-free trucks on the road the beneficial air quality impacts will occur sooner. But what about GHG reduction? As indicated previously, the smog-free engines are less fuel efficient and the energy content of the new ultra-low sulphur diesel fuel is lower than previous fuel grades. There is a direct link between decreased fuel efficiency and increased GHG emissions. For both economic and environmental reasons, the industry does not want to see its fuel efficiency impaired. It wants to be able to enhance air quality impact by accelerating investment in the 2007-10 trucks AND regaining (or increasing) the lost fuel efficiency in order to reduce GHG emissions.

**How to do that? Read on.**

**FACT:** The 2007 engine cuts particulate matter (PM) by a whopping 90%. By 2010 the smog-causing emission, nitrogen oxide (NOx) will be slashed by 95%. PM is a significant contributor to respiratory diseases, and NOx is the main cause of ground level ozone and smog.

# Next Step

## CTA's enviroTruck Initiative

**Enter, the Canadian Trucking Alliance's enviroTruck program** -- a cohesive, practical approach to accelerating the acquisition of the new, mandatory, smog-free trucks combined with proven technologies that will reduce fuel consumption and lead to lower GHG emissions. Under the enviroTruck program, the Government of Canada would partner with the trucking industry and its manufacturers to provide meaningful financial incentives to accelerate the acquisition of trucks configured with both the new smog-free engine and technologies that improve fuel efficiency. In concept, enviroTruck would be consistent with both the Energy Star program, which helps consumers identify energy efficient products, and with a new federal budget initiative to encourage the introduction of energy efficient automobiles.

### Qualifying Equipment

**An enviroTruck vehicle would include:**

**2007 or newer  
model year heavy  
truck engine**



**Speed limiter  
activated at no more  
than 105 km/hr**



**A combination of add-on devices  
for the tractor and trailer(s) to  
increase fuel efficiency**

**= CTA enviroTruck**

### Fuel Efficiency Devices

The types of add-on devices that would qualify under the enviroTruck program include such things as: auxiliary power units to run truck heating and cooling systems without having the engine idle; tractor and trailer aerodynamics; less rolling resistant tires; and double trailer configurations.

#### Pay Back

There will be a shared pay-back to both industry and government. The payback to industry will be the opportunity for improved fuel efficiency. For government it will be an accelerated environmental benefit in terms of reduced smog emissions and lower GHG emissions.



#### Smog-Free Engines

2007: Reduce PM by 90% BY LAW  
2010: Reduce NOx by 95% BY LAW  
By 2010, equivalent to removing  
600,000 trucks from roads



#### Speed Limiter Activation

Diesel savings of up to 10,500 litres  
per year for some trucks  
GHG Reduction = 2.8 million tonnes



#### Auxiliary Power Units for Anti-Idling

Reduce idling by 90%  
Diesel savings of 7,200 litres per year for long  
distance truck  
GHG Reduction Per Truck/Year = 12 - 14 tonnes  
(APU diesel-electric/battery-electric)



#### Low Rolling Resistance Tires

Tire rolling resistance = 35% of fuel  
consumption  
4-5% diesel fuel savings for wide base tires and  
efficient dual tires compared to convention duals  
GHG Reductions Per Truck/Year: 7-8 tonnes



#### Aerodynamics: Boat Tails, Roof & Side Fairings, Cab Extenders

Diesel savings of between 2 and 6% per device  
GHG Reductions Per Truck/Year = 2.5 to 7.5  
tonnes



#### Longer Double-Trailer Combinations

Diesel savings of up to 55% compared to  
single trailer units  
Diesel savings of up to 260 million litres per  
year

GHG Reductions/Year = 730 kilotonnes  
260 million litres of fuel and 730 kilotonnes of greenhouse gases  
per year.

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**The Next Step in Cleaner,  
Greener Transportation**

“Estimates show that if the entire Canadian fleet of 294,000 Class-8 trucks were to adopt a full package of energy-efficiency technologies, Canadian truck owners and operators would save 4.1 billion litres of fuel and reduce emissions by 11,500,000 tonnes of GHG each year. This is equivalent to taking 64,000 Class-8 trucks off the road or taking 2.6 million cars off the road.”

**Truck Efficiency and GHG Reduction  
Opportunities in the Canadian Truck Fleet  
RMI, 2007**



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