The Road to Cleaner Air

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January 18, 2005

If You Got It, A Truck Brought It!

- **$45 billion in revenues in Canada**
- **70% of all goods by value, and 90% of all consumer products & foodstuffs, move by truck**
- **but, trucking consumes 41% of energy used to transport freight in Canada**

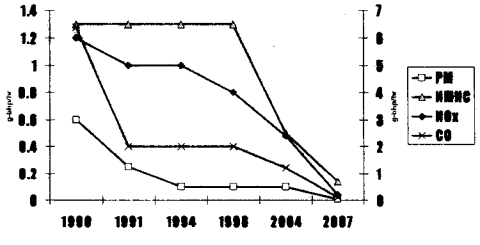
2007 EPA Standards & The Clean Engine

- **2002 standards reduced NO_x by close to 40% — 2007 standards virtually eliminate these emissions.**
- **EPA's new standards will result in PM and NO_x emission levels that are 90 per cent below today's levels, respectively.**
- **EPA states their program is the equivalent of removing 13 million trucks and buses.**

Cleaner Fuel

- **Since 1998 all Canadian trucks have used low sulphur diesel fuel — cannot be greater than 500 ppm.**
- **In 2006 all on-road diesel fuel will have a sulphur content of 15 ppm - a 97% reduction**
- **Positive correlation between low-sulphur fuel and reduced PM emissions.**

EPA Truck Emission Standards



Model Year

Smog VS. GHG

- Technologies to reduce smog emissions increase fuel consumption (and GHG)
- About 5% increase in Oct. 2002/ who know for 2007?
- How do we improve air quality and reduce GHG?

Idle Reduction

- Idling = 3-4 litres burned per hour
- Reduced idling = $4,000 in savings and 19 fewer tonnes of carbon dioxide
- How?
- On-board idle reduction systems
- Truck plazas

Improved Aerodynamics

- 6000- 7000 litres per year
- $4,500/year in fuel
- 20 tonnes of carbon dioxide
- How: roof fairings, cab extenders, air dams, reduced tractor-trailer gap, side skirts, taut tarping, etc.

Freight Logistics

- Reduce empty miles by 15% results in $5,000 in fuel savings & 22 tonnes in carbon dioxide.
- How? Load matching , efficient routes and delivery schedules, coordinating loads with other carriers, etc.

Super-Single Tires

- Single wide base tires = 2% reduction in fuel costs and over 3 tonnes of carbon dioxide
- How? Super singles reduce vehicle weight, rolling resistance and drag.

Driver Training

- Trained drivers = 5% in fuel savings = $1,500 & 7 tonnes of CO.
- How? Progressive shifting, engine speed optimization, smoother braking, idle reduction, optimal gearing, etc

Low-Viscosity Lubricants

- Low viscosity lubricants = 3% reduction in fuel consumption & 5 tonnes of CO.
- How? Low viscosity lubricants flow more easily thus reducing resistance & reduced wear and maintenance of truck systems.

Long Combination Vehicles (LCVs)

- LCVs can haul more cargo without additional gross vehicle or axle weights or mitigation of truck safety.
- How? Reduces trips thus saving time and money and reducing emissions.
- BCTA Lower Mainland to Kamloops proposal

Reduced Highway Speeds

- Reducing speed by 8 kph could reduce annual fuel bill by $2,000 and reduce CO by 10 tonnes.
- How? Speed management policies, electronic controls and driver training and incentives.

Weight Reduction

- Reduce 1,400 kg from line-hal truck could save up to 1,600 litres of fuel and 5 tonnes of CO.
- How? Aluminum truck components and smaller engines.

Hybrid Power & Alternative Fuels

- Up to $2,500 in fuel savings & 12 tonnes of CO for P&D vehicles.
- How? Alternative and complementary propulsion systems.