“How Government Can Support Business”

Transporte Limpio Program

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In Latin America, more than 150 million people live in urban areas where the air quality guidelines of the World Health Organization are exceeded.

Source: Clean Air Institute con base en datos del Observatorio Mundial de la Salud la Organización Mundial de la Salud.

800 deaths every hour in the world attributable to air pollution (WHO 2012)

In Mexico, in 2010, an estimated 20,500 deaths related to exposure to air pollutants (INECC, 2014).
Emissions generated by different modes of transport

Emisiones de CO2 por tn-km

- Container ship: 9.5
- Railway: 10.9
- Truck: 64.3
- Airplane: 519.0
Impact of diesel transportation in Mexico

**Freight transportation in Mexico:**

- **25% NOx**
- **42% PM$_{10}$**
- **52% PM$_{2.5}$**
- **63% black carbon**
- **26% CO$_2$**

**Of all motor vehicles, diesel vehicles emit:**

*In 2012, the World Health Organization (WHO) classified diesel emissions as carcinogenic.*

**Sources:**
- Quinta Comunicación Nacional ante la Convención Marco de las Naciones Unidas sobre el Cambio Climático, 2012. SEMARNAT.
- INEM, 2008. Los vehículos diesel que se incluyen son: vehículos privados y comerciales con peso > 3 toneladas, autobuses de transporte urbano y tractocamiones.
Public policies aimed at reducing emissions in freight transport

State or local

- Inspection and Maintenance Programs
  - Emissions Inspection
- Self regulation
  - Preventive Maintenance & Emissions reduction devices
- Ecozones or Low Emission Zones
- Promotion of efficient and low emission vehicles
  - Natural Gas, hybrids, electric
  - Night Deliveries

National

- Update of Federal Rules for Emissions
  - The NOM-044 was updated
- Scheme for Substitution of Federal Registered Freight Vehicles (Chatarrización)
  - This year resources were not released to operate the Chatarrización scheme
  - Financed by NAFIN
    - Offers credit to buy new and new units for the micro and small transport company
- Transporte Limpio Program
Transporte Limpio Program (PTL)

Voluntary program, designed by SEMARNAT with the support of the SCT. The objective of the program is that the freight transportation be:

- More efficient
- Competitive
- Friendly with the environment

Transporte Limpio Program is based on:
### Program participants

#### Truck Carrier
- **Objective**: Reduce fuel consumption and emissions through the adoption of strategies and technologies.

#### Shippers
- **Objective**: Reduce the carbon footprint by hiring efficient transport companies.

Transporte Limpio seeks to develop a virtuous circle between the transport companies and the shipper companies that contract the carrier service.

**Other important actors are**: chambers and associations of carriers, technology providers and promoters of the program.
Measures promoted by PTL

For the Carriers companies:

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Fuel saving potential</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Eco-driving.</strong></td>
<td>10 – 30%</td>
</tr>
<tr>
<td>Regulation of the maximum speed.</td>
<td>5 – 15%</td>
</tr>
<tr>
<td>Reduce Idling.</td>
<td>Minimum 5%</td>
</tr>
<tr>
<td>Selection and specification of the vehicles.</td>
<td>Variable even up 30%</td>
</tr>
<tr>
<td>Maintenance.</td>
<td>7 – 15%</td>
</tr>
<tr>
<td>Logistic.</td>
<td>Variable, at least 10%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Technologies</th>
<th>Fuel saving potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerodynamics improve.</td>
<td>5 – 10%</td>
</tr>
<tr>
<td>Low rolling resistance tires.</td>
<td>3%</td>
</tr>
<tr>
<td>Automatic tire inflation systems.</td>
<td>1%</td>
</tr>
<tr>
<td>Lubricants more advanced.</td>
<td>1.5%</td>
</tr>
<tr>
<td>Control emissions devices.</td>
<td></td>
</tr>
</tbody>
</table>

For the Shippers companies:

- Sending Goods with Partners “Transporte Limpio”
- Improving Carrier Transportation Logistics
- Multimodal transportation (Train and others)

The Shippers are those that have the power to define the characteristics of the transport that hire.
Program status

418 companies + 69,000 trucks evaluated in 2018

8.7 millions of ton CO₂ avoided*

* Acumulated from 2008 to 2018.

Source: DGGCARETC. April, 2018.
Main barriers to achieve efficient, competitive and environmentally friendly freight transport

- Atomization of the sector

<table>
<thead>
<tr>
<th>Company Type</th>
<th>Vehicle Fleet (Trucks)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self owner (HC)</td>
<td>1 to 5</td>
<td>82.0%</td>
</tr>
<tr>
<td>Small Carrier (PT)</td>
<td>6 to 30</td>
<td>15.6%</td>
</tr>
<tr>
<td>Medium Carrier (ME)</td>
<td>31 to 100</td>
<td>1.9%</td>
</tr>
<tr>
<td>Big Carrier (GE)</td>
<td>More of 100</td>
<td>0.6%</td>
</tr>
</tbody>
</table>

- Regulatory framework
  - In Mexico, two Euro and EPA regulations coexist

- Fuels quality

- Highway infrastructure

- Adulterated fuel

- Insecurity on the roads
Following steps to go to achieve sustainable transport

ASI approach (Avoid, Shift and Improve)

**Avoid**

- Motorized trips through more intelligent land use and planned logistics → **improve Efficiency system.**
  - Ej. Avoid empty trips.

**Shift**

- The transport of goods using the most efficient modes of transport → **Increase trip efficiency**

**Improve**

- The efficiency of transport systems through the improvement of vehicles, fuel and network operations and management technologies → **improve vehicle efficiency**
  - Ej. Implementing fuel saving strategies and technologies in the trucks (Transporte Limpio).
CONCLUSIONS

- Freight transport is a strategic factor for the cities economy; however, it produce pollutants that can harm the health of the population.

- Both, the federal government and local governments have implemented actions aimed to reducing emissions from cargo transport, among which are: Improving regulations, Vehicle verification programs (inspection and maintenance program), Transporte Limpio Program, Self-regulation, Time restriction, Ecozones, among others.

- **Have the polices worked?**

- A recommendation is to estimate the effects (cost-benefit) that the application of any policy entails. Bearing in mind that for a policy or action to be sustainable, three elements must converge: environmental, social and economic.
Transporte Limpio web site

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Programa de Transporte Limpio

Programa voluntario que busca que el transporte de carga y pasaje que circula por el país sea más eficiente, seguro, competitivo y amigable con el medio ambiente.

Objetivos del Programa Transporte Limpio

- Reducir el consumo de combustible.
- Reducir las emisiones de gases de efecto invernadero y contaminantes del criterio (NOx y PM10 y PM2.5).
- Reducir los costos de operación del transporte.
- Generar el costo de operación de combustibles.
- Generar el costo de operación de transporte.
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Thank you

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