

The Mexican Developing Automotive Fuel Economy Policy

1.0 Background

In 2008, Mexico was the seventh-largest oil producer in the world, and the third-largest in the Western Hemisphere. State-owned Petroleos Mexicanos (Pemex) holds a monopoly on oil production in the country and is one of the largest oil companies in the world. The oil sector is a crucial component of Mexico's economy: while its relative importance to the general Mexican economy has declined, the oil sector still generates over 15 percent of the country's export earnings. More importantly, the government relies upon earnings from the oil industry (including taxes and direct payments from Pemex) for about 40 percent of total government revenues.

In terms of the 20 highest emitting countries, Mexico ranks 13th in terms of greenhouse gas emissions.

Light-duty vehicle (LDV) sales have grown rapidly since 1995, following a major market contraction in 1994. Since 1995, the annual growth rates averaged about 23% for cars, about 18% for trucks, and about 22% for cars and trucks combined. The combined annual growth rate is still about 14% with the market contraction of 1994 included.

1.1 The Mexico Light-Duty Vehicle Fleet

Mexico's combined vehicle fleet is averaging about 13 kilometers/liter (7.69 l/100km, 179 gCO₂/km or 30.5 mpg) in the 2008-2010 time frame (using the CAFE test cycle). Passenger cars were averaging 14.8 km/l (6.8 l/100km, 157 gCO₂/km or 34.8 mpg) in 2008.

Mexico is considering a number of options for setting fuel consumption standards. The objective is to achieve a level of 18 km/l (5.5 l/100km, 130gCO₂/km or 42.3 mpg) in 2015. The purpose of these standards would be to reduce greenhouse gases and to curb oil imports.

There are many different factors to be considered when adopting fuel economy standards. The following are some considerations from other countries that have already adopted fuel economy standards:

Flat standards

- No special consideration for any attribute
- Generally requires corporate- or fleet-averaging

Attribute-based

- Used in EU, US, China, Japan, Canada
- Weight/mass-indexed (lb or kg) or footprint-indexed (e.g., vehicle size-ft², m²)

Form of the standard

- Continuous
- Discrete or using "bins"

Other provisions

- Corporate average vs. per-vehicle limits
- Gasoline vs. diesel

The FE/CO₂ standards benefit of the above proposed program would result in the CO₂ savings below:

	Millions of CO ₂ Savings
Annual Average Emission Savings 2011-2015	4.24
Emission Savings in 2015	6.66
Accumulated Emission Savings 2011-2015	21.19

1.2 Status of LDV fleet fuel consumption/CO₂ emissions

For purposes of comparison, the following chart provides various technologies that can be incorporated in the vehicle fleet and also provides a comparison of what percent of the fleet in the U.S. and in Mexico this technology is installed in.

Vehicle System	Technology	Potential fuel economy imp.	% Adoption in the U.S	% Adoption in Mexico
Engine	Variable valve timing or lift	2-8%	53	19
	Cylinder deactivation	3-6%	5.8	0.3
	Turbo-charging	2-5%	1.5	8
	Gasoline direct injection	10-15%	3.9	0.3
	Compression ignition diesel	20-40%	0.1	3
	Digital valve acuation	5-8%	0	0
	Homogeneous charge compression ignition	15-20%	0	0
Transmission	5 speed	2-4%	32	57
	6+ speed	3-5%	21	8.8
	Dual clutch automated manual	4-8%	0.5	--
	Continuously variable	4-8%	7.9	1.6
Overall Vehicle	Light-weighting	10-20%	n/a	n/a
	Aerodynamics	5-8%	n/a	n/a
	Tire rolling resistance	2-8%	n/a	n/a
	Efficient auxilliaries (steering alternator, A/C)	2-10%	n/a	n/a
	Stop-start mild hybrid	5-7%	0.2	--

	Full hybrid electric system	30-80%	2.2	0.03
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2.0 Regulatory Policies

2.1 National Standard

Mexico is in the process of developing fuel consumption standards. However, it is important to highlight that increases in the number of diesel cars on the roads, to gain overall average higher fuel economy levels, will have negative health effects if there are no stringent emission standards in place, nor clean diesel fuel available to reduce emissions from these vehicles.

2.2 Import restrictions

There are import restrictions on used cars in Mexico. Only used cars that are 10 years old – nothing newer, nothing older- can be imported into Mexico. So the model year that may be imported changes each year. This is designed to curtail the flood of ‘vehiculos chatarra’ or jalopies, clogging Mexican streets.

New Vehicles

The Mexico auto market is very dynamic in the sense that it *produces, sells, exports, and imports* large volumes of vehicles at the same time. About half of the new-sale vehicles are made domestically, half are imported. Three quarters of produced vehicles in Mexico are exported. But in general, Mexico is a “net” auto exporter – it exports more vehicles than it imports and sells domestically

Second Hand Vehicles

N/A

2.3 Technology mandates/targets

There are no technology mandates in Mexico.

3.0 Fiscal Measures and Economic Instruments

3.1 Fuel Taxes

N/A

3.2 Fee-bate

N/A

3.3 Buy-back

N/A

3.4 Other tax instruments

Mexico's vehicle owners soon could be paying higher taxes on larger and older vehicles — but getting exemptions from use taxes if they drive hybrids — under a bill submitted to the Mexican Congress by the Partido Verde Ecologista, or Mexican Green Party.

The proposal asks for exemptions on 2009 hybrid vehicles, and not only would these green cars evade this tax, but they would also be exempt from the general 15 percent consumption tax. The reform, if approved by Congress, would decisively promote green technologies in motor vehicles and could reduce domestic consumption of oil resources.

If the Green Party proposal prevails, it would be a significant bet to reduce carbon dioxide emissions that heavily pollute the air of Mexico City. The green tax would also be a strong reference for other initiatives to modernize Mexican law.

3.5 Registration fees

N/A

3.6 R&D

N/A

4.0 Traffic Control Measures

4.1 Priority lanes

Mexico City incorporated a traffic control program in 2000. Dubbed the “zero-zero” program, certain vehicles that are low emission can drive all week, while other, higher emission vehicles, cannot drive on certain days. Cars are labelled as ‘hoy no circula’, or ‘no driving today’, according to their plate numbers.

4.2 Parking

N/A

4.3 Road pricing

N/A

5.0 Information

5.1 Labeling

N/A

5.2 Public info

Mexico has created a website (<http://www.ecovehiculos.gob.mx/>) that allows consumers to check the fuel economy of particular vehicles. The objective of this portal is to provide consumer information on the technical characteristics of vehicles and to condense into two grades, which combine the attributes of performance and emissions in order to take better decisions and help to improve the environment .

The importance of taking into account the energy efficiency of the car is because, on the one hand, consumers can reduce their fuel consumption while on the other hand reduce their emissions of carbon dioxide, which contributes to global climate change. In addition, vehicles with lower emissions of local pollutants, will result in a decrease in harmful effects to health of the population.

A sample from this website is pictured below.

Detalles del automóvil:
TOYOTA / CAMRY / 2008

ESPECIFICACIONES

Versión: XLE V6 CIL
 Transmisión: A6 
 Combustible: Gasolina 
 Motor: Cilindros: 6
 Potencia: 268 HP
 Tamaño: 3.5 L

CONSUMO DE COMBUSTIBLE 

Rendimiento Ciudad: 9.40 km/l
 Rend. Carretero: 13.20 km/l
 Rend. Combinado: 11.10 km/l

Gasto Anual Estimado de Combustible: **\$ 15,200** 

EMISIONES CONTAMINANTES

Emisión CO₂: 210 g/km 
 Rango Emisión NO_x: Hasta 12.43 g/1000km

MÁS INFORMACIÓN

Clase: AUTOS DE LUJO
 Fotografía: [Consulta de precio y fotografía](#)

 **NOTAS:** El Gasto Anual Estimado de Combustible se calcula considerando 15,000 kilómetros recorridos al año en condiciones de manejo en ciudad, considerando combustible de tipo PREMIUM a un precio promedio de \$9.54 pesos por litro (precio actualizado al **11-NOV-08**).
 Cuando una calificación aparece con "?", significa que los datos necesarios para el cálculo no están disponibles para el vehículo, sin embargo, debido a que este vehículo es comercializado en México, sus características de emisiones contaminantes cumplen

CALIFICACIÓN DE GASES DE EFECTO INVERNADERO:

7

(10 = Más eficiente)

CALIFICACIÓN DE CONTAMINANTES AL AIRE:

9

(10 = Más limpio)

(10 = Más eficiente)

10	?	K	J	I	H	G	F	E	D	C	B	A
9	?	L	K	J	I	H	G	F	E	D	C	B
8	?	M	L	K	J	I	H	G	F	E	D	C
7	?	N	M	L	K	J	I	H	G	F	E	D
6	?	O	N	M	L	K	J	I	H	G	F	E
5	?	P	O	N	M	L	K	J	I	H	G	F
4	?	Q	P	O	N	M	L	K	J	I	H	G
3	?	R	Q	P	O	N	M	L	K	J	I	H
2	?	S	R	Q	P	O	N	M	L	K	J	I
1	?	T	S	R	Q	P	O	N	M	L	K	J
0	?	U	T	S	R	Q	P	O	N	M	L	K
?	?	?	?	?	?	?	?	?	?	?	?	?

Calificación de contaminantes al aire (local)

(10 = Más limpio)

Explicación de la Metodología utilizada

Al dar clic sobre los cuadros de color, usted puede consultar los vehículos ubicados dentro de la misma calificación de

Industry reporting

N/A

The text above is a summary and synthesis of the following sources:

Feng An, Energy and Transportation Technologies, LLC and Kate Blumberg, ICCT; The Case for Mexico to Improve Fuel Economy – January 9, 2005

German, J. "Impact of Standards on Industry, Consumers and Economy." *International Council on Clean Transport, Passenger Vehicle Efficiency Workshop, Mexico, 8 March 2010*. Available on-line (http://www.theicct.org/documents/0000/1424/German_ICCT_Standard_impacts.pdf)

Cortés, M. "Analysis of fuel economy standard options for new passenger vehicles in Mexico". *Secretaria de Medio Ambiente y Recursos Naturales Mexico, June 2009*. Available on-line (http://pre2010.theicct.org/documents/IIC_esquemas_sacramentoFINAL.pdf)

Lutsey, N. "Design Considerations for Fuel Economy/GHG Standards". *International Council on Clean Transport, Presentation from Climate Change Mitigation: The Importance of Passenger Vehicle Standards, 8 March 2010*. Available on-line (http://www.theicct.org/information/workshops/climate_change_mitigation)

"Mexico: 'Green Tax' in Works To Exempt Hybrid Drivers, Penalize Owners of Bigger and Older Vehicles". *Edmunds Inside Line, 30 September 2008*. Accessed 14 June 2010. Available on-line (<http://www.insideline.com/car-news/mexico-green-tax-in-works-to-exempt-hybrid-drivers-penalize-owners-of-bigger-and-older-vehicles.html>)

"Country Analysis Briefs: Mexico". *Energy Information Administration, 2009*. Accessed 14 June 2010. Available on-line (<http://www.eia.doe.gov/emeu/cabs/Mexico/Full.html>)