



## FEDERAL ROAD FREIGHT TRANSPORT NAMA FOR OWNER OPERATORS AND SMALLER FLEET CARRIERS

*NAMA Profile # 12*

*Seeking support for implementation*

*Jan 2016*

In Mexico, greenhouse gas (GHG) emissions have substantially increased by over one third since 1990. Among sectors in Mexico, transportation counts for approximately half of the energy consumption and 31% of global CO<sub>2</sub> emissions. In particular, road transport is responsible for 94% of the transport sector's emissions. Due to old vehicles, poor vehicle maintenance and uneconomical driving techniques, road freight operations produce 70 Mt CO<sub>2</sub>eq per year. The Mexican Government has undertaken several activities to tackle the high emissions rate of the transport sector. Measures including a scrapping programme, the Programme for the Modernization of the Federal Motor Carrier fleet and the Clean Transportation Programme, have been used to modernize and increase operating efficiency in the sector.

Despite the successful experience of these measures, large emission reduction potential still lies in actions that target smaller fleet carriers and owner operators. In fact, according to data from the Mexican Ministry of Communication and Transport (SCT), these two groups account for more than 60% of the total number of freight vehicles circulating in the country. Smaller fleet

carriers and owner operators are taken into consideration for new mitigation actions taking into account those characteristics that differ from the large fleet sub-sector and major transport industry. This subsector, which includes smaller fleet carriers up to 30 vehicles and owner operators up to five vehicles, is characterized by an average fleet age older than the large fleet sector and a lower intensity of usage of vehicles that mostly serve short haul routes. On the other hand, less usage and consequent longer vehicle life is negatively compensated by a limited ability to finance the purchase of more modern vehicles and lower levels of technology in relation to logistics management and performance monitoring.

Due to these reasons and in line with Mexico's decision to designate the transport sector as a crucial field for innovation and transformational change, a NAMA proposal titled "Federal Road Freight Transport NAMA for owner operators and smaller fleet carriers" has been prepared and support is now being sought for its implementation.



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## NAMA objectives

The main objective of this NAMA is to improve energy efficiency in the federal road freight transport sector by modernizing the fleet, including through technologies and training programs for drivers, which reduce fuel consumption of trucks and, thereby, reduce GHG emissions and criteria pollutant emissions.

The NAMA will be composed of the three following interventions:

- The inclusion of «Eco-driving» courses for truck drivers as part of the mandatory SCT courses taken by road haulers every two years.
- Technological improvements, including aerodynamics and automatic inflating systems, among others.
- Modernization of the vehicle fleet, via the scrapping and renovation of road transport fleet.

## NAMA mitigation potential

Based on sectorial studies, the GHG emission reduction potential of the NAMA has been estimated for each single intervention as follows:

- **Eco-driving courses** are expected to reduce between 2 and 3.5MtCO<sub>2</sub>e/year.

- **Technological improvements** are expected to reduce between 0.3 and 1MtCO<sub>2</sub>e/year.

- **Fleet modernization** is expected to reduce an average of 2 MtCO<sub>2</sub>e/year.

Due to the fact that the sector is highly dynamic, the baseline CO<sub>2</sub> emissions were calculated via a bottom-up approach since it provides a higher certainty. For this methodology, input data like vehicle fleet, intensity of use, efficiency and fuel information have been used to calculate mileage per vehicle type, net emissions, total emissions and fuel consumption. The vehicle fleet (number of vehicles) is multiplied by the intensity of use (km/year) to obtain mileage per vehicle type (km/year). Vehicles are then classified into four different types: C2, C3, T2 and T3. This variable allows calculating fuel consumption and total emissions. Multiplying gross efficiency (km/lit) with a loss factor “on road” enables the calculation of net efficiency (km/lit). Dividing mileage by net efficiency,

we obtain total fuel consumption per year (lits/year). Finally, dividing the emission factor (kgCO<sub>2</sub>/lit) by net efficiency equals net emissions of the vehicles (kgCO<sub>2</sub>/km). The product resulting from the multiplication of the latter by mileage equals total emissions per year (MtCO<sub>2</sub>/year).

## NAMA relevance in the national policy context

On 6 June 2012, the General Law for Climate Change was published and includes rules to accomplish several objectives, such as reducing GHG emissions and promoting the transition towards a competitive, sustainable and low carbon economy. The law also includes a regulatory framework in order to develop ways to mitigate and adapt to climate change, and encourages the transport sector to foster different strategies and programs to reduce emissions and achieve the modernization of the national fleet. The National Climate Change Strategy of 2013 integrates several rules to meet the mitigation and adaptation objectives established in the law. It has two different public policy objectives: adaptation to climate change and development of a low emissions economy, including by reducing the energy intensity with options of efficiency and responsible consumption.

The NAMA is based on the following two existing government programs, which are aimed at modernizing the fleet and improving fuel efficiency:

- “Transporte Limpio” (SEMARNAT): A voluntary, market-driven partnership program, which promotes eco-driving courses and fleet upgrades with various fuel saving technologies and by reducing idling time.
- Scrapping Scheme and Financial Scheme (SCT): These schemes promote the replacement of old trucks with modern ones.

The Special Climate Change Program (PECC) in 2014 promoted the Transport NAMA as one of the National Strategies for reducing GHG emissions and short-lived pollutants. It also pointed to “Transporte Limpio” and the Modernization Program as two actions to develop sustainable transport schemes of in Mexico.

## Support required for NAMA implementation

For NAMA implementation, a total amount of USD 70,000 is required in the form of either a grant or a sovereign/private loan. The required external financing refers only to the first intervention of eco-driving courses. For the technological improvements, funding is contemplated from the national development bank (NAFIN) or commercial banks. Furthermore, additional support from the finance ministry (SHCP) will be required in order to broaden the scope of third intervention.

This NAMA is part of the Mexican – German NAMA Program (ProNAMA) and the total project costs are seven million Euros, with approximately two million Euros being spent thus far. Technical support, which began in March 2012 and will end in November 2015, consisted mainly of technical advice, including regarding NAMA design, the MRV system and a finance scheme for the NAMA. Additionally, knowledge transfer has been promoted on a national, regional and international level.

## Sustainable development co-benefits

The NAMA will also contribute to achieving some positive economic, environmental and social impacts as follows:

**Environmental:** Positive impact on the environment and public health through the reduction of criteria pollutant emissions (particulate matter, black carbon, carbon monoxide and nitrogen dioxide, among others).

**Economic:** Improvement of the sector's competitiveness by increasing job opportunities for owner operators and smaller fleet carriers.

**Social:** Better road safety through the professionalization of drivers and the improvement of conditions of the road transport vehicles.

### Salient Features of the Proposed NAMA

**Sector:** Transport and its infrastructure

**Type of action:** National/Sectoral goal

**GHGs covered by the action:** CO<sub>2</sub> and N<sub>2</sub>O

**Expected timeframe for implementation:** starting in 2015

**National implementing entity:** Ministry of Environment and Natural Resources

**Total estimated cost of the NAMA:** EUR 7,000,000

**Required support for NAMA implementation:** EUR 70,000

### Relevant contacts

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## References

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UNFCCC (2015). NS-175 - Federal Road Freight Transport NAMA for owner operators and smaller fleet carriers. NAMA Registry.

<http://www4.unfccc.int/sites/nama/layouts/un/fccc/nama/NamaSeekingSupportForImplementation.aspx?ID=113&viewOnly=1>

The series of NAMA profile is produced by the NAMA and Registry Unit of the non-Annex I Support Sub-Programme of the Mitigation, Data and Analysis Programme (MDA) of the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat based on the information recorded by Parties in the NAMA registry. The objective of NAMA profile is to enhance visibility of NAMA which increases probability for obtaining international support and encourages similar mitigation actions in the developing countries.

The NAMA registry is a dynamic, web-based platform to record nationally appropriate mitigation actions by the developing countries and support available and/or provided by the Parties and entities for such mitigation actions. Further, the registry aims to facilitate the matching of NAMAs with available support. The participation in the registry is voluntary and the registry contains only information that has been submitted specifically for recording purpose. For any queries and assistance in relation to the NAMA registry, please contact: [NAMA-registry@unfccc.int](mailto:NAMA-registry@unfccc.int).

To learn more about stories about how developing countries, often with international support, are lowering global emissions, creating jobs, improving living conditions, and preparing for a low-emissions world, please visit :

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