LEDS GLOBAL PARTNERSHIP

Using better quality fuel to mitigate vehicle emissions: the case of Mauritius

14 April 2016

Speakers:

Mr. D. Prithipaul, Mr. A. Allock, Mr. A. Juggurnath

Ministry of Environment, Sustainable Development, and Disaster and Beach Management, Republic of Mauritius

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Agenda

- Welcome and introductory remarks
- Overview of the LEDS GP
  - **Angela Enriquez**

  WRI Ross Center for Sustainable Cities, LEDS GP Transport Working Group
- Presentations – Panelists:
  - **Mr. A. Allock, Mr. A. Juggurnath**

  Ministry of Environment, Sustainable Development, and Disaster and Beach Management, REPUBLIC OF MAURITIUS
- Questions and answers
- Closing remarks
- Survey

LEDS Global Partnership

Advancing climate resilient, low emission development around the world

LEDS GP mission:

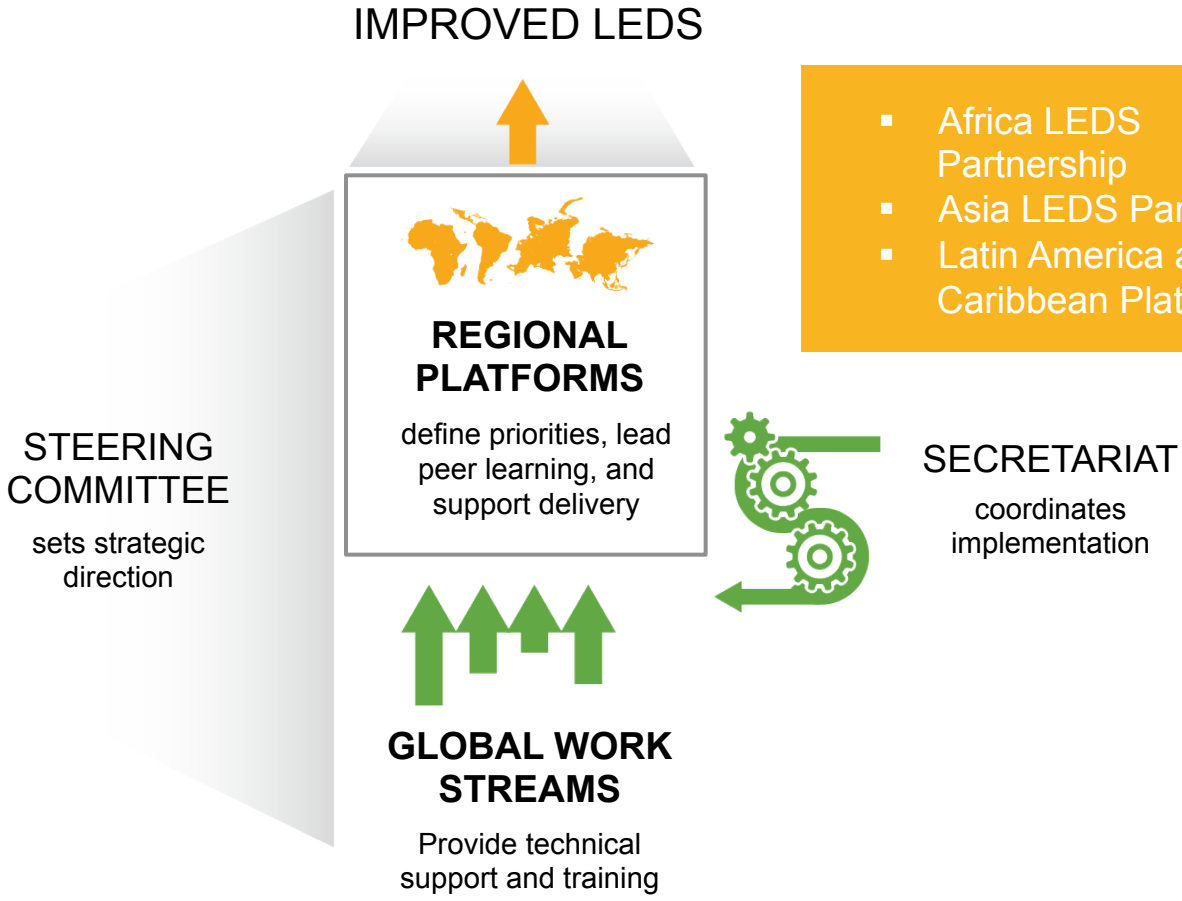
To harness the collective knowledge and resources of governments, donors and international organizations, and practitioners in scaling up and strengthening implementation of climate resilient, low emission development around the world.

Objectives:

- **Strengthen quality, coordinated support, and leadership** of climate resilient, low emission development strategies by countries in all regions
- **Foster effective implementation** of LEDS
- **Spur development of new LEDS** by additional national and sub-national governments

Launched in 2011, the LEDS GP now catalyzes action and collaboration across more than 120 countries and international organizations.

LEDS GP organizational structure



Examples of LEDS GP support

Peer learning and knowledge sharing

- Global and regional workshops and trainings for more than 800 practitioners on LEDS planning, analysis, finance, and sectoral programs

Technical collaboration

- Transportation and Development Impacts Assessment (DIA) toolkits and country assistance
- National LEDS Finance Strategies with Colombia, Peru, and Chile
- No cost expert assistance available on LEDS analysis, finance, and sector measures to all members

Understanding and analysis of LEDS benefits

- Application of DIA visual tool with Ghana, Kenya, and Montenegro
- Broader portfolio of shared LEDS communication resources under development

Learn more at:
www.LEDSGP.org

Request technical assistance on LEDS:
www.LEDSGP.org/assistance

LEDS GP Transport Working Group

Leaders

WRI Ross Center for Sustainable Cities, United States National Renewable Energy Laboratory (NREL), United Nations Environment Programme (UNEP)

Global

- LEDS Transport Toolkit (ledsgp.org/transport)
- Webinars
- Global events and trainings

Regional

- Workshops that serves the specific needs of that region
- Matchmakers for knowledge sharing

Local

- In-country support for governments on specific transport issues and policies
    - Workshops with peer experts
    - Technical assistance
- Remote Expert Assistance on LEDS (REAL)

Webinar training series

Supporting countries with implementing new vehicle emission fuel quality standards

This webinar is part of a training brought to you by the LEDS GP Transport Working Group, in partnership with the United Nations Environment Program (UNEP) and Clean Air Asia. The series included:

- Fuels and technologies to mitigate emissions – Roadmap for implementing new fuel economy standards: the Case of Mexico
- Roadmap for implementing new fuel economy standards: Case of Mexico
- Improving air quality and reducing climate impacts from the transport sector

The final instalment for this series will focus on: Innovative financing solutions for low carbon transport projects to improve air quality*

*Topic may be subject to change.

UNEP

Partnership for Clean Fuels and Vehicles

CLEAN AIR ASIA

WORLD RESOURCES INSTITUTE | WRI ROSS CENTER FOR SUSTAINABLE CITIES

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Presentation

- Part 1 – Mitigating vehicular emissions using better quality fuel
- Part 2 - CO_2 Feebate Scheme for motor cars and motor vehicle-related tax

Part one: Mitigating vehicular emissions through better quality fuel

Road traffic in figures

- Our total road network is some **2150 km.**

- **486,144** vehicles registered in 2015, resulting in acute traffic congestion particularly during peak hours in the morning (7:00-10:00 am) and afternoon (3:00-6.00 pm).

- The land transport sector accounts for **25.3%** of total greenhouse gas emissions isthe second largest contributor of carbon dioxide emissions after industry. Other pollutants emitted include:

  - sulfur dioxide
  - particulate matter
  - nitrogen oxides
  - hydrocarbons
  - carbon monoxide
  - ozone
  - volatile organic compounds

Impact of increasing road traffic

- Emissions of noxious gases and noise
- Overconsumption of fuel
- Negative impacts on health and environment
- Poor traffic affects the economy and businesses

2013 Vehicle Inventory

Based on the 2013 Vehicle Inventory, the number of light duty vehicles in Mauritius is likely to double by 2030 and triple by 2050, thus the need for better quality fuels and more efficient vehicles.

Traffic heading towards the capital city, Port Louis, 08:00 am

Sulphur content in diesel

High sulfur content in diesel does not allow the use of catalytic converters/ particulate matter filters. Gas oil (diesel) with sulfur content less than 50 ppm has been introduced as follows:

Date	Shift in gas oil sulfur content (ppm)	
	from	to
August 2001	5,000	2,500
August 2010	2,500	500
March	500	50

The State Trading Corporation is presently holding discussions with potential suppliers and supply of gas oil 10 ppm is being considered.

Additional measures

- Unleaded petrol introduced in September 2002.
- Rate of excise duty on electric cars reduced to 25%.
- 50% reduction in levy on road tax and registration duty for hybrid and electric vehicles.
- 100% or 70% duty remission for purchase of cars by civil servants, religious federations and handicapped persons.

Year	Number of vehicles	
	Hybrid	Electric
2009	43	0
2014	1,842	8

Cumulative number of hybrid and electric cars registered

Year	Hybrid	Electric
2009	43	0
2010	161	0
2011	315	2
2012	703	5
2013	1,389	6
2014	1,824	8

Implementation of the Global Fuel Economy Initiative in Mauritius

Goal

More efficient vehicles would consume less fuel and produce lower emissions. The main objective of the initiatve is to reduce the present average fuel consumption from 8 to 4 litres per 100 km by 2050, reducing carbon dioxide emissions from 180 to 90 g/km.

Considerations under the Global Fuel Economy Initiative

1. Financial incentives to promote the purchase of environment friendly vehicles.

2. Vehicle labelling legislation to improve public awareness and informed purchasing of vehicles.

3. Assessment study on the socioeconomic impacts of policies on low- and no-emissions vehicles including two wheelers.

4. Amendments to carbon dioxide levy/rebate scheme.

5. Traffic control measures – tackling congestion, providing parking spaces, promoting nonmotorized transport and park and ride

Enforcement against polluting vehicles

1. Road Traffic (Control of Vehicle Emissions) Regulations 2002 provide exhaust emissions standards for petrol and diesel driven vehicles.

2. The enforcing agency for vehicle emissions is the National Transport Authority. The Police de L'Environnement supports enforcement of the regulation by carrying out roadside checks.

3. In 2011, the Ministry of Environment funded 11 smoke meters for monitoring emissions

4. Meetings are being held with bus companies to discuss reducing black smoke emissions.

Part two: CO_2 Feebate Scheme for motor vehicle-related taxes

Objectives of the Feebate Scheme

- To reflect the **Polluter Pay Principle** in our motor vehicle taxation system.

- To bring about a **shift in consumer choice** from high emitting cars to lower emitting cars.

Carbon dioxide levies and rebates on motor vehicles

- The carbon dioxide emission levy/rebate scheme was introduced on July 2011 and designed to be revenue neutral.

- It applies to all purchased cars (including hybrids), whether new or imported second-hand.

- The calculation of the levy/rebate is based on a set carbon dioxide threshold of **150 g/km.**

- A **levy** is payable if the emissions **exceed** 150 g/km. On the other hand, a **rebate** is granted when the emissions are **below** the threshold of 150 g/km.

Calculating the levy/rebate

The calculation of the **CO_2 levy/rebate** is based on a computed carbon dioxide emission threshold using the formula below according to the First Schedule of the Excise Act:

Carbon dioxide levy or rebate: A = R x (C – T)

Where:

- *A – is the amount of the levy or rebate;*
- *R – is the appropriate rate of the levy or rebate, per gram per kilometer (g/km);*
- *C – is the carbon dioxide gram per km of the motor car, rounded to the nearest whole number; and*
- *T – is the carbon dioxide set threshold in gram per km.*

Calculating rates of carbon dioxide

Rebate		
Carbon dioxide emission range (g/km)	**In conformity with UNECE Regulation No. 101 Rate (Rs/g/km)**	**NOT in conformity with UNECE Regulation No. 101 Rate (Rs/g/km)**
Up to 90	Rs 3000	Rs 1000
91 - 150	Rs 1000	Rs 350

Levy	
Carbon dioxide emission range (g/km)	**Rate (Rs/g/km)**
151-190	Rs 2000
191-225	Rs 3000
226-290	Rs 4000
Over 290	Rs 5000

Motor vehicle related taxes

Three broad categories:

1. Taxes on acquisition i.e. taxes on the purchase of a motor vehicle (excise duty, carbon dioxide levy/rebate, registration duty)

2. Taxes on ownership i.e. taxes in connection with possession or ownership of a vehicles (Road Motor Vehicle Licence)

3. Taxes on motoring i.e. taxes related to the use of a vehicle (excise duty on mogas and gas oil, MID levy on mogas and gas oil)

1. Taxes on acquisition – rates of excise duty

Excise duty on motor vehicles are imposed **at the time of imports** and the rates depend on:

- the type of motor vehicle (cars, motorcycles, buses, goods vehicles)
- engine size i.e the cylinder capacity (excise rates for cars of more than 2,000 cc is 100% of the value of import compared to 55% for those of less than 1,600 cc)
- the use of the motor vehicle (private cars compared to commercial vehicles).

Rates of excise duty for motor cars (inc. SUVs and jeeps)	
< 1,600 cc	55% of the value of import
1,601- 2000 cc	75%
> 2,000 cc	100%

Excise duty concession and exemptions	
Civil servants	0%, 30% of the rates
Embassies	0%
Taxis	20% of the rates
Returning residents	15%
Handicapped persons (specially designed cars)	15%
Electric cars	Flat rate of 25%
Note: same rates are applicable for **new** and imported **second hand vehicles**	

Rates of excise duty for motor cycles	
Up to 300 cc	0%
301-450 cc	45%
Above 450 cc	100%
Rates of excise duty for buses	
Private transport	10%
Public transport	0%
Rates of excise duty for double space cabin vehicles	20%

Taxes on acquisition: carbon dioxide levy/ rebate scheme

- Under provisions of Section 3C of the Excise Act (amended)
- **Carbon dioxide rebate** is granted & deducted from excise duty
- **Carbon dioxide levy** is payable & added to excise duty

(Excise duty **+ CO_2 levy**) + VAT

(Excise duty **- CO_2 rebate**) + VAT

VAT: Value Added Tax is a tax on consumption, like all other goods, motor vehicles are taxed at 15% on the final price

Taxes on acquisition: registration fee

A registration fee is payable on first entry into Mauritius or at any subsequent transfer of ownership

Specific rates (i.e rupee amount):

- For new and imported second hand vehicles, the type of vehicle, engine size is considered, whilst for subsequent transfers, the age of the vehicle is also taken into account.
- Payable at the Registrar General Office
- Registration duty payable in the case of hybrid/electric vehicle is reduced by half

2. Taxes on ownership – road motor vehicle licence

- Paid on a yearly basis by the owner of the vehicle
- Collected by the National Transport Authority
- Based on the type of the vehicle, engine size, weight (for goods vehicle), seating capacity

Examples

- Motor cars: Rs 3,500 to Rs 13,000 and Rs 4,500 to Rs 15,000 (if in a company name)
- Auto cycle: Nil
- Motorcycle: Rs 600 to Rs 1,000
- Public buses: Rs 3,000 – Rs 4,500
- Goods vehicles : Rs 3,000 to Rs 18,000
- 50% reduction for hybrid and electric vehicles and if the vehicles are used in Rodrigues.

3. Taxes on motoring – taxes on fuel

Excise duty on:

- Mogas = Rs 10.80 per litre
- Gas oil = Rs 3.30 per litre

The **MID levy** was introduced in June 2008 at the rate of 15 cents per kg of coal, 15 cents per kg of liquefied petroleum gas (LPG), and 15 cents per litre of other petroleum products (mogas, diesel, fuel oil, jet fuel). The rates were doubled to 30 cents in Nov 2010.

The objective of the MID levy is to finance MID projects, and is very similar to a carbon tax.

Thank you!

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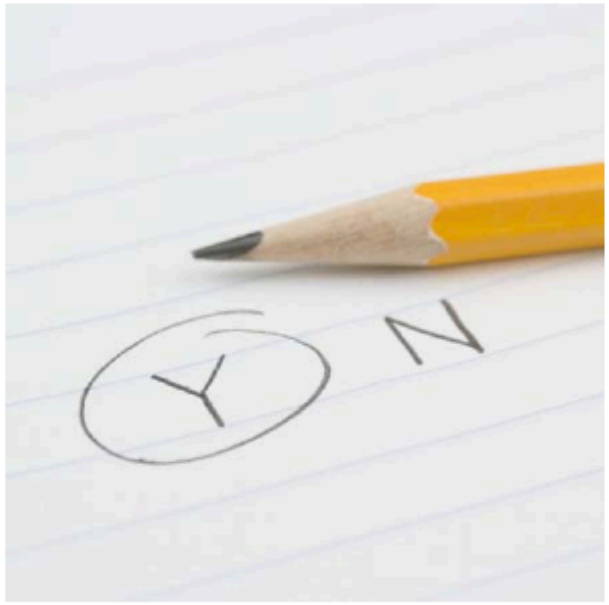
Mr. A. Juggurnath: ajuggurnath@govmu.org

Time for a Q&A

Questions?

Survey

- **How did we do?**
- **Your feedback is important!**



For more information

- LEDS GP Transport Working Group: ledsgp.org/transport
  - WRI Ross Center for Sustainable Cities: wricities.org
  - NREL: nrel.gov
  - UNEP: unep.org
- Clean Air Asia: cleanairasia.org
- Global Fuel Economy Initiative: globalfueleconomy.org
- Partnership for Clean Fuels and Vehicles: http://www.unep.org/transport/new/pcfv/
- Ministry of Environment, Sustainable Development, and Disaster and Beach Management, Republic of Mauritius: http://environment.govmu.org

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